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HENRIETTA M. LARSON, *Editor*

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Robert Owen As A Businessman

The student of the various working-class movements which originated in the period of the Industrial Revolution in England has always to take account of the influence of Robert Owen on these movements. To each of them, this strange and interesting man brought a set of ideas and a range of experience which, when viewed in the light of his personal history, are of significance to the business historian.

The son of an obscure Welsh trader, Owen at the age of nineteen was in complete charge of one of the larger spinning mills in Manchester, and before he reached his thirties he had become the head of the largest, and what was soon to be acknowledged as the best equipped and best run, group of cotton mills in the country. For twenty-five years his capabilities and his philanthropies as a businessman were renowned throughout Great Britain, and his fame as an educator had attracted international attention. At this point in his career Owen completely shifted the area of his interests and activities. Abandoning his position as a successful manufacturer, he began to play an active part in the working-class movement. He was one of the first to preach the doctrines of socialism; he has indeed been called the father of British socialism. He was the founder of the British coöperative movement. He was perhaps the most influential figure in the mid-nineteenth century trade-union movement. He was amongst the first to attempt the experiment of the ideal communist community. "Owenism" as a political concept has secured a permanent place in the terminology of the historian of socialism.

Owen's influence on these various movements cannot be underestimated, and their historians have done full justice to that influence. Moreover, Owen's biographers have attempted to explain the apparent quixotry which lay behind the change of direction of his interests and they have fully recounted the period of his life when, for twenty-five years, and in the prime of his life, he was operating as a successful businessman. Nevertheless, it is this aspect of the story of Robert Owen which deserves re-examination by the business historian; for the significance of that change and the importance of those twenty-five years have never received the emphasis which they deserve.

Perhaps this is because, in the past, that emphasis has never been thought to be required. It is the necessary, and indeed inevitable, job of the historian to highlight those aspects of the total historical material at his disposal which can usefully be brought to bear on the problems that are current in his time. The study of "Owen the socialist" has contributed to our present understanding of the various working-class movements which play so important a part in our society. In recent years, however, new spheres of interest, and with them new sets of problems, are being more and more constantly brought to our attention. The problems of business responsibility, the concept of business administration as a profession and the implications of the increasing study of human relations in industry, are all under constant discussion today. It is in the atmosphere of this discussion that a study of Owen, as a businessman, and the motives which led him to abandon business, take on a new interest.

Much of the appeal of Owen as a businessman comes from the fact that he seems to have anticipated, both in thought and execution, many concepts of business administration which only today are being given recognition of their full importance. Owen's application of certain principles of business conduct, of education and human organization, appear to be startlingly modern. Before we take a look at his activities as a business administrator, however, and in order to understand why he left business, we must first examine the atmosphere in which he operated and the background against which his individuality developed: the atmosphere and background of the Industrial Revolution in England.

THE INDUSTRIAL REVOLUTION

It is not possible, and indeed not necessary, to recount here the immense social and economic changes which took place in England during the period of the Industrial Revolution. Two of the well-known factors in the immense social upheaval which took place are the rapid technological development and the growth of the factory system. It is important, however, for our purpose to point out that of these two factors it was the factory system which came first.

The move to gather people together to work in one place had begun in England during the period of the medieval wool trade. It was a movement which was to re-establish itself early in the eighteenth century. With the advent of the early water-driven machines of the cotton industry, factories and factory communities began to spring

up in the countryside near the sources of water power; with the medieval example before them, the early manufacturers began to develop primitive administrative techniques to deal with such communities. In 1782, the sons of a certain John Smalley of Preston erected a mill in Flintshire which[1]

> . . . though completed in six weeks was 40 yards long, ten yards wide, and six storeys high and was lighted by 198 sash windows "which nightly exhibit a most glorious illumination." It was worked by a water wheel. . . . The labour was largely furnished by apprentices who about the time of Oldknow's visit [1787] had been increased to three hundred. The boys and girls were lodged in separate houses built for the purpose which were whitewashed twice a year and fumigated three times a week with tobacco smoke, the bedstocks being frequently sprinkled with rectified oil of tar. "A surgeon is appointed to superintend their health, and a Sunday school is regularly attended by a Master at each house. Our little children [says the employer who supplied these details to the historian in 1795] sleep three in a bed, the larger sizes only two; and those who work in the night are so far from succeeding each other in the same beds that they do not even sleep in the same rooms." It may easily be imagined with [what] interest these arrangements of a model factory were noted. . . .

It was on models like these that Owen was to base his applications of "community living" at his mills at New Lanark. Benevolently paternalistic as they were, these models were a far cry from the disgusting working conditions which arose in the industrial towns of the early nineteenth century, particularly in the cotton industry, and which were to cause so much outcry, evidence that the factory system soon outgrew the administrative techniques which were being developed to cope with it.

In the cotton industry this spread between the system and the capacity to handle it was particularly great. Previous to the rise of the factory system, the manufacturing of cotton thread and cloth had been carried on in the homes of the operatives. It was a family effort, with men, women, and children all contributing to the process. Working hours were long, pay was poor, and conditions were bad. However, the existing social framework of the family provided many advantages which compensated for these conditions. With the advent of the factory system, the whole family—husband, wife, and child—were transferred to an environment where conditions were much the same but where no social substitution for the compensa-

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[1] George Unwin, *Samuel Oldknow and the Arkwrights* (Manchester, England, 1924), pp. 95-96.

tions of the family organization was provided. Dissatisfaction accordingly began to manifest itself in the form of an outcry against bad working conditions, which, although not new, were poor enough by any standards. These conditions became worse as the system developed, and as manufacturing became increasingly competitive in the cotton industry.

Much of this worsening can be attributed to the social disorganization which took place with the influx of great numbers of people into the new towns. Much of it was owing to the incapacities of the men who were running the factories to deal with this new form of social organization and to their attitude towards it. Their incapacities can be assumed from the conditions as we know them to have existed. Something of their attitude can be gathered from the answers given by a manufacturer to questions put to him during the parliamentary investigation of 1816 into the conditions of child labor:[2]

> Q.—When a child is found sitting in the mill, is that not contrary to the rules?
> A.—Certainly, I expect them to be at work.
> Q.—The whole day?
> A.—Yes; the master will not notice it if the work is in a proper state.
> Q.—If the threads were not breaking, and the work was going properly, you would have no objection to their sitting down?
> A.—No; I should not, occasionally; but it might become a habit.
> Q.—Could they sit down and yet be able to superintend the threads?
> A.—Not correctly. . . .

What were the origins of the men who were running the factories—the successful cotton manufacturers of the early nineteenth century? Almost all of the founders of factories were men of humble origin. They were petty capitalists, small farmers, and artisans: men with a "mechanical bent" with the energy and imagination to persuade perhaps their fathers, or some local merchant, or even an enterprising wholesaler, to provide the little capital required to start a manufacturing concern. Success was difficult to achieve, and it was a hard and often brutal school in which these men were trained, but when success came, it came quickly, and wealth and eventually "position" was assured to those who succeeded. But wealth could not be spent, and status could not be achieved, in the social environment of the factory of the time. It was not long before the "new rich" began to employ the more capable of their workmen to run their factories for

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[2] *Parliamentary Report* (London, 1816), p. 118.

them, men who were perhaps indifferent enough toward the very conditions under which they were working to enable them to rise above those conditions. Moreover, it was inevitable that these new managers, seeking independence, should begin in their turn to set up factories of their own with the assistance of wealthy merchants and the landed aristocracy who were only too willing to invest capital in such profitable enterprises, for the operation of which they need take no responsibility.

Of course not all the managers were indifferent to conditions, and not all investors were so far removed as to take no responsibility for them, but the tendency was that way. It is important to our understanding of Robert Owen to notice how he ran contrary to that tendency, in spite of the fact that his early personal history so closely followed the pattern described above. As we trace that early personal history it is not difficult to see the reasons for this deviation.

EARLY LIFE

The most authoritative source of information concerning Owen's early life is his own highly readable autobiography; and, if we discount the bias which the prejudices of old age have written into it, many evidences of the remarkable individuality which he was to develop can be discovered.

Owen was born in Newtown, South Wales, the son of a saddler and ironmonger; and at the early age of ten he became apprenticed to a draper, McGuffog, who operated a fair-sized business in Lincolnshire. Owen tells of how he learned here the elements of business which were to prove so useful to him in later life:[3]

> I was . . . carefully initiated into the routine of the business, and instructed in its detail, so as to accustom me to great order and accuracy. . . . I . . . became familiar with the finest fabrics of a great variety of manufactures, many of which required great delicacy in handling and care in keeping from being injured. These circumstances . . . were of essential service to me in after life, when I became a manufacturer and commercial man on a large scale. . . .

It is evident that the McGuffogs were extremely kindly people. Owen talks of being installed as a member of the family, and McGuffog apparently gave his young protégé the run of the house and—what is more significant—the use of his library:[4]

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[3] Robert Owen, *The Life of Robert Owen* (London, 1857), p. 13.
[4] *Idem.*

> Mr. McGuffog had a well selected library, which I freely used; for our chief business was from ten in the morning to four in the afternoon, and while I remained in Stamford I read upon the average about five hours a day.

Extensive reading was a habit which Owen had acquired whilst still a child in Wales. His reading was curiously wide. Of the books that he mentions, *The Lives of the Philosophers* and Harvey's *Meditations* are intermingled amongst *Robinson Crusoe*, *Paradise Lost*, *Pilgrims Progress*, and the novels of Richardson. Five hours' reading a day for the four years that he was with McGuffog must have laid an extensive foundation of knowledge, which, though probably lacking in direction, was evidently remarkably free from the stereotype of education that he would have received from a more formal schooling. It was a foundation on which he was to build the "original" structure of his thinking and activity in later years.

When Owen moved to his next job, as a draper's assistant in London, he found the work far harder, and although he tells of his gradual acclimatization, during which period no doubt he broadened his knowledge of business, it was not long before he moved to a better-paid job with a wholesale-retail house in Manchester. Owen was to stay in Manchester for over a decade, but he was soon to quit his first post. For, at the age of eighteen, he met through business contacts a mechanically minded salesman named Jones, with whom (on a capital of £100, borrowed from his brother) Owen went into the business of manufacturing cotton-spinning machinery.

This would appear to be an amazingly bold step for so young a man, and in order to understand it we must bear in mind the intellectual and emotional atmosphere of Manchester at the turn of the century. Manchester must have borne to the English Industrial Revolution something of the same relationship that Florence bore to the Italian Rennaissance. Into this rapidly expanding city were pouring young men of mechanical and commercial bent, all attempting to contribute to the new and amazing methods of manufacturing cotton. It was a fast-moving competitive society in which the rapid exchange of ideas on new and exciting technical, economic, and social problems must have provided an added intellectual stimulation to an era already alive with the new political concepts behind the successful American and French revolutions, to an era which was just beginning to assess the impact of the Romantic revival.

Manchester must have provided a captivating and exciting social atmosphere for a young man, and Owen entered wholeheartedly into

all of its phases. He writes of his partnership with Robert Fulton, the American inventor, in an enterprise to develop the production of an earth-moving machine. He tells of his friendship with the chemist Dalton, later to be renowned as the exponent of the atomic theory, and he writes of his long arguments on poetry and philosophy with Samuel Taylor Coleridge. Owen made most of his intellectual contacts at frequent meetings of the Manchester Literary and Philosophic Society. It was here that he came to know Dr. Thomas Percival, the founder and president of that society, a man whose work in public health, housing, and factory reform, and whose ideas on these subjects probably did much to crystallize for Owen the impression which he must have been forming of life in an industrial community.

Owen's acquaintanceship with the factory system was soon to be enlarged. It was not long before he parted company with Jones, taking as his share in the partnership some of the machines which they had constructed. With these, and the help of two employees, he rented a building and began to spin cotton, making in the first year of operations a profit of £300.

At this stage in his career, Owen began once again to follow the typical success-story pattern. A wealthy merchant and manufacturer named Drinkwater had then recently built a cotton mill and was advertising in the Manchester newspapers for a mill manager. How Owen applied for and got the job is most vividly recounted in his autobiography, but the account is unfortunately too long to quote here. His experiences on arrival at the mill, however, must be repeated in his own words:[5]

> When I arrived at the mill, which was in another part of the town from Mr. Drinkwater's place of business, I found myself at once in the midst of five hundred men, women and children, who were busily occupied with machinery, much of which I had scarcely seen, and never in regular connection to manufacture from the cotton to the finished thread. I said to myself, with feelings I shall never forget,—"How came I here? and how is it possible I can manage these people and this business?" . . . Mr. Lee [the previous manager] had left the mill the day before I undertook it,—Mr. Drinkwater did not come with me to introduce me to any of the people,—and thus, uninstructed, I had to take the management of the concern. I had to purchase the raw materials,—to make the machines, for the mill was not nearly filled with machinery,—to manufacture the cotton into yarn,—to sell it,—and to keep the accounts,—pay the wages,—and, in fact, to take the whole responsibility of the first fine cotton spinning establishment by machinery which had ever been erected. . . .

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[5] *Ibid.*, p. 28.

Drinkwater, as was usual, was an absentee manager, and Owen was thrown completely on his own resources. In his description of how he handled the situation, we can begin to see some of the reasons which lay behind his success as an administrator:[6]

> Well—there I was, to undertake this task, and no one to give me any assistance. I at once determined to do the best I could, and began to examine the outline and detail of what was in progress. I looked grave,—inspected everything very minutely,—examined the drawings and calculations of the machinery, as left by Mr. Lee, and these were of great use to me. I was with the first in the morning, and I locked up the premises at night, taking the keys with me. I continued this silent inspection and superintendence day by day for six weeks, saying merely yes or no to the questions of what was to be done or otherwise, and during that period I did not give one direct order about anything. But at the end of that time I felt myself so much master of my position, as to be ready to give directions in every department.

Owen stayed with Drinkwater for three years, enlarging and improving his knowledge of cotton manufacturing. It is probable that he soon became known in the trade as an eager and enquiring pioneer, and it is interesting to note that he was the first, according to his own statement, to attempt the spinning of American sea island cotton. At all events, by the end of that period his ability was proven and the quality of his product was so good that his name (which was stamped on his shipped produce and carried the authority of a trade-mark) had become a password in the industry: "My name was now up for being the first fine cotton spinner in the world, and this was my standing as long as I remained the manager of Mr. Drinkwater's factory. . . . "[7] Owen was able to draw on his early experience in the business, and it is likely that a young, eager mind would not have found it hard to master the manufacturing process. It is probable, however, that his success was owing in great measure to his capacity to handle the administrative techniques of the factory system, techniques which were, at the time, completely outside the experience of most of the men who were pioneering in this new form of social organization. He writes:[8]

> [I acquired] the early habit of considering man the necessary result of his organization and the conditions by which nature and society surrounded him,

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[6] *Ibid.*, p. 29.
[7] *Ibid.*, p. 35.
[8] *Ibid.*, pp. 30-31.

> and of looking upon and acting towards all in the spirit which this knowledge created. My mind, in consequence, gradually became calm and serene, and anger and ill-will died within me.
>
> This knowledge of human nature gave me for a long period an unconscious advantage over others. My treatment with all with whom I came into communication was so natural, that it generally gained their confidence, and drew forth only their good qualities to me; and I was often much surprised to discover how much more easily I accomplished my objects, than others whose educated acquirements were much superior to mine. Very generally I had the good will of all. . . .
>
> In consequence of this to me unconscious power over others—I had produced such effects over the workpeople in the factory in the first six months of my management, that I had the most complete influence over them, and their order and discipline exceeded that of any other in or near Manchester; and for regularity and sobriety they were an example which none could then imitate . . . .

Thus when Owen left Drinkwater[9] to enter into the management of the New Lanark Mills, he was not only in a position to dictate the terms under which he should operate, but was also equipped with an understanding of the administrative processes of factory management which must have been very largely unique at the time.

Much had contributed to this understanding which could not have been part of the experience of the average factory manager. Owen's early apprenticeship in the business, his unconventional education, his more than cursory acquaintance with the intellectuals of Manchester, and the very speed with which a reasonably sensitive young man was thrown into contact with a new and disturbing form of society; all these elements of his experience had coalesced into an attitude towards business administration which was to find early expression in his writings.

Before we follow him to New Lanark, it is important to examine the principles which he expounded again and again in all his books and pamphlets if we are to understand their application to the amazing industrial community which he founded there.

HIS "PHILOSOPHY"

> Any character, from the best to the worst, from the most ignorant to the most enlightened, may be given to any community, even to the world at large, by the application of proper means; which means are to a great extent

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[9] His reasons for leaving and the way in which Oldknow, the famous manufacturer, entered into them, are interesting, and can be found in his autobiography.

> at the command and under the control of those who have influence in the affairs of men.[10]

In this quotation which heads his "First Essay on the Formation of Character," published in 1813, Owen expressed the essence of his "philosophy." The social disorganization caused by the Industrial Revolution, which we have outlined above, was causing much public concern at the time. The comfortable arguments of *laissez-faire* economics, with their implications of the laziness and moral irresponsibility of the poor, were those which were most commonly accepted amongst the manufacturing and business classes to explain this disorganization. Much of their wide acceptance of the doctrines of Malthus (whose *Essay on the Principle of Population* had recently been published) was owing to the fact that Malthus shifted the responsibility for the state of society to an area which was outside their control. Owen's argument was that the existing social order which had grown up around the factory system was responsible for the physical and social deterioration of the people who were living within it, and that the manufacturing and business classes had it in their power to profoundly influence that social order.

Simply stated, Owen believed that mankind was profoundly influenced by its environment. To modern sociology and psychology this is a commonplace, nor indeed was it new in the early nineteenth century. Nearly every Utopian has built his theories on such an idea, and it is implied in most of the advanced political writing of the eighteenth century. What was astoundingly new, however, was the fact that Owen attempted, and with great success, to give the doctrine practical application in his social experiment at New Lanark. He was, in his writings, able to lift a Utopian idea out of the area of philosophical hypothesis and present a theory which he claimed could be tested against the conditions which existed at New Lanark throughout the first quarter of the nineteenth century.

As long as "society" was limited to nineteenth-century England, and as long as the men who were to make the changes (the manufacturers) remained outside the environment they were to change (the environment of the industrial worker), Owen's theory had sound application. He was later to extend his theory to cover the entire

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[10] Robert Owen, *A New View of Society: or Essays on the Principle of the Formation of the Human Character* (London, 1813), "First Essay on the Formation of Character," p. 13.

social order, where none of these conditions could apply, and we cannot credit him with an understanding of the mechanisms of social change—an area of knowledge which even today is under constant revision. His later extensions of his theory were almost crude in their simplicity; and, although they were to have great influence on the movements which we have mentioned above, we are not concerned with them here. It is the earlier, more limited statement of them which interests us: the statement which could be tested against the *limited* experiment of a factory community, in the *limited* "society" of the England of the Industrial Revolution.

In his *Report to the County of Lanark*, Owen had something to say about the conditions which were being created by that revolution:[11]

> The steam engine and spinning machines, with the endless mechanical inventions to which they have given rise, have . . . inflicted evils on society which now greatly overbalance the benefits which are derived from them. They have created an aggregate of wealth, and placed it in the hands of a few, who, by its aid, continue to absorb the wealth produced by the industry of the many. Thus the mass of the population are become mere slaves to the ignorance and caprice of these monopolists, and are far more truly helpless and wretched than they were before the names of Watt and Arkwright were known.

He is stating here an attitude which was later to be adopted by the socialists, but his earlier attempts to ameliorate the conditions, which he describes, were undertaken in his capacity of a businessman. Furthermore, Owen was well aware that, if businessmen were to contribute to a solution of the problem, it was to businessmen that his arguments must be addressed, with the emphasis on the business advantages of his approach rather than its ethical necessity.[12]

> Like you, I am a manufacturer for pecuniary profit. But having for many years acted on principles the reverse in many respects of those in which you have been instructed, and having found my procedure beneficial to others and to myself, even in a pecuniary point of view, I am anxious to explain such valuable principles, that you and those under your influence may equally partake of their advantages. . . .
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> Will you . . . continue to expend large sums of money to procure the best devised mechanism of wood, brass and iron; to retain it in perfect repair; to

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[11] Robert Owen, *Report to the County of Lanark* (Glasgow, 1821), p. 15.

[12] Robert Owen, *A New View of Society*, An Address To the Superintendants of Manufactories, . . . prefixed to the "Third Essay on the Formation of Character" (London, 1816), pp. 71, 73, 74.

> provide the best substance for the prevention of unnecessary friction, and to save it from falling into premature decay? Will you also devote years of intense application to understand the connexion of the various parts of these lifeless machines; to improve their effective powers, and to calculate with mathematical precision all their minute and combined movements? And when in these transactions, you estimate time by minutes, and the money expended for the chance of increased gain by fractions, will you not afford some of your attention to consider whether a portion of your time and capital would not be more advantageously applied to improve your living machines? From experience which cannot deceive me, I venture to assure you, that your time and money so applied, if directed by a true knowledge of the subject, would return you not five, ten or fifteen per cent. for your capital so expended, but often fifty and in many cases a hundred per cent.
>
> I have expended much time and capital upon improvements of the living machinery; and it will soon appear that the time and money so expended in the manufactory at New Lanark, even while such improvements are in progress only, and but half their beneficial effects attained, are now producing a return exceeding fifty per cent., and will shortly create profits equal to cent. per cent. on the original capital expended in them.

Owen's feelings that the businessman had wider ethical responsibilities is only faintly hinted at throughout the whole of this astoundingly "up-to-date" address. We shall return to these responsibilities, and their importance to Owen, when we discuss the reasons why his interests shifted from the field of business. We are concerned at present with the impression it conveys of the practical business administrator, with a complete grasp of the complex elements which go into the make-up of a successful manufacturing organization. Let us then, turn to New Lanark to take a look at Owen administering this organization of which he was so justifiably proud.

THE FACTORY COMMUNITY AT LANARK

After leaving Drinkwater, Owen had become a partner in the Chorlton Twist Company, and in the course of making business connections had been introduced to the girl who was to become his wife. It was the father of this young woman, David Dale, who sold the New Lanark spinning mills to the Chorlton Twist Company for £60,000, payable at the rate of £3,000 a year for twenty years. In 1800, at the age of twenty-nine, Owen moved with his wife from Manchester to Scotland to take on the active management of these spinning mills.

The mills had been founded in 1782 by David Dale, in partnership with Richard Arkwright, the famous inventor. The partnership was soon dissolved, however, and Dale took over the ownership of the mills. It is evident that Dale ruled his community at Lanark with a

fair measure of benevolence. Owen talks of the bad conditions which existed there when he arrived, but it is probable that he exaggerated a little to emphasize the changes which he made. Although an absentee manager, Dale was concerned enough for the welfare of his workers to have paid wages during a period of unemployment, to have started a company store, and to have provided a certain measure of education for the children. Owen was to improve on all these things, and certainly nothing which Dale had attempted in any way measured up to what Owen was to achieve.

When Owen took charge, there were some 1,800 operatives in the factory, of whom 500 were children from the parish workhouses. These people constituted the total population of the village of New Lanark, which had been built by Dale nearby the small town of Lanark. Conditions both in the village and the factory were very bad. Theft, drunkenness, and immorality were widespread, says Owen, and housing and sanitary conditions were disgusting. The children, who were from five to ten years of age, worked thirteen hours a day in the mills; and their education, which was conducted out of work hours, is described by Owen as "a mockery." The factory itself was completely unorganized with regard to efficient operation and contained much obsolete machinery.

Amongst Owen's first acts was that of replacing the old machines with the new ones of which his Manchester contacts had made him cognizant. He fired the old mill manager and brought in as his assistant a man called Humphries whom he had recommended to replace him at Drinkwater's; Humphries had followed Owen to the Chorlton Twist Company, whose Manchester mills were now shut down. Owen cut down working hours to twelve a day, and eventually (as he overcame the opposition of his partners) to ten a day. In addition, he refused to employ any children under the age of ten.

Owen made many innovations to improve the physical and social conditions of the community. He built an extra storey on each of the houses in the village to remedy the overcrowded living conditions. He reorganized the company store so that, although prices were some 25 per cent lower than those of the private storekeepers, it managed to make a profit of £700 a year, which was devoted to the upkeep of the schools. Caretakers were appointed to patrol the streets and report cases of drunkenness, although, for this and other offenses,

punishment was rare. Owen's approach to punishment is shown from the system which he set up to control the extensive theft:[13]

> . . . theft was extended through almost all the ramifications of the community, and the receipt of stolen goods through all the country around. To remedy this evil, not one legal punishment was inflicted, not one individual imprisoned, even for an hour; but checks and other regulations were introduced. . . . They [the workers] were at the same time instructed how to direct their industry in legal and useful occupations. . . . Thus, the difficulty of committing the crime was increased, the detection afterwards rendered more easy, the habit of honest industry formed, and the pleasure of good conduct experienced.

In all this Owen had to overcome not only the opposition of his partners but also the opposition of the workpeople themselves, who resented his interference in what they felt were their private affairs. The methods which he used to overcome this resentment illustrate his understanding of the administrative process. Owen saw that it was necessary to achieve standards of personal hygiene amongst the people in the village. Accordingly, he suggested that the workers themselves establish a committee system, elected by ballot, which should be responsible for the cleanliness of the houses and the streets:[14]

> [Owen] advised that they should appoint a Committee from amongst themselves, every week, to inspect the houses in the village, and to insert in a book to be given for that purpose, a faithful report of the state of each house as they might happen to find it. This recommendation was upon the whole pretty cordially acceded to by the male part of the population, but the rage and opposition it met with from the women, I well remember, was unbounded. They almost unanimously resolved to meet the visitants with locked doors. They bestowed upon them the appellation of "Bug Hunters"; and Mr. Owen escaped not without his share of the general odium.

Yet in spite of the "odium" Owen was able to make the changes, and it is evident that much of his success was owing to the very great affection which the workpeople began to develop towards him. Throughout his life Owen was to engage in much public dispute on many controversial subjects. As a socialist and an agnostic he was to call forth much violent opposition. Yet, amongst the writings of those who so violently opposed him, there is never to be found a personal

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[13] *Ibid.*, "Second Essay on the Formation of Character," pp. 50-51.

[14] One formerly a teacher at New Lanark: *Robert Owen at New Lanark, 1839* (Manchester, 1839), p. 5. This book is an amusing source for many interesting personal anecdotes, and shows something of the regard in which Owen was held.

attack on Owen himself. In later years, many of those who came into personal contact with him, and had to bear with the boring repetition of his ideas which made up most of his conversation, tell of his personal charm, his simplicity of manner, and his integrity of character. There are many contemporary accounts of the affection which the people of New Lanark (and especially the children) bore for Owen.[15] Indeed, some of the innovations were so idiosyncratic that only the tolerance of the people who lived under them could have made them workable.[16]

More than charm of manner, however, was needed to win the affection of the workpeople. Owen himself writes of the slowness with which the changes were effected, and he always insisted on the importance of personal example in achieving results. His son, in an illuminating little incident, writes of this personal example:[17]

> Within the mills everything was punctiliously kept. Whenever I visited them with my father, I observed that he picked up the smallest flocks of cotton from the floor, handing them to some child near by, to be put in his waste-bag.
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> "Papa," said I one day, "what *does* it signify,—such a little speck of cotton?"
>
> "The value of the cotton," he replied, "is nothing, but the example is much. It is very important that these people should acquire strict habits of order and economy."

In 1813, after a long absence in London during which time his ownership of the mills was in the balance, Owen returned to New Lanark with his future control assured:[18]

> When we arrived within a few miles within the Royal Burgh of the Old Town of Lanark, we heard a great shout at some distance, and we soon saw a great multitude running towards us, which at first much alarmed my Quaker friends. I did not know what to make of the number of people and the noise that they made on approaching us. They called out to the postillions to stop the horses, and before we were aware of their intentions they had untraced

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[15] Henry G. Macnab, *The New Views of Mr. Owen of Lanark, Impartially Examined* (London, 1819), *passim*. Macnab, the chaplain to the Duke of Kent, came to spy for his patron and left completely won over. His book gives a detailed account of the community.

[16] See Owen's *Life of Robert Owen* for an account of a peculiar device involving colored blocks of wood, which were to regulate factory conduct, and which by any standards appears to be a little cranky.

[17] Robert D. Owen, *Threading My Way* (London, 1874), p. 73. The early part of this book gives an interesting account of Owen as seen by his son.

[18] Owen, *Life of Robert Owen*, p. 97.

> the horses from the carriage, had desired the postillions to take them on to Lanark, and, heedless of our urgent entreaties, they began to drag the carriage, and now it was up hill almost the whole distance. . . .

Such a welcome was in some measure the expression of gratitude for thirteen years of wise and understanding administration.

Gradually, as the many changes began to take effect, the fame of New Lanark began to spread throughout the country. Financially the mills were successful; and, as Owen's personal reputation began to grow, his opinions on affairs of national interest began to carry weight in England. His coöperation with Robert Peel towards the passing of the first Factory Act is outside the scope of this paper, as is his extensive work on committees and his various published schemes on subjects of wide and varying interest. However, his work in education deserves further attention. Its fame was to spread beyond Great Britain, and it is in education that we can most closely follow the practical application of Owen's theories.

OWEN AS AN EDUCATOR

It had always been obvious to Owen that, if he was to alter "the character of man" through his environment, then it was with the children that he must begin. He wrote of them:[19]

> Children are, without exception, passive and wonderfully contrived compounds, which by due preparation and accurate attention, founded on a correct knowledge of the subject, may be formed collectively into any human character.

He was able to see that early influences were most important, and his understanding seems to have anticipated much of what we consider to be the outcome of modern psychology:[20]

> . . . much of temper or disposition is correctly or incorrectly formed before he [the child] attains his second year; and . . . many durable impressions are made at the termination of the first twelve or even six months of his existence.

It was in an attempt to influence the children of his community that Owen started his school. He had prevented children under ten from working in the mills, and he accepted them at school from the age of two, thus starting what may have been the first infants' school. The teaching methods were surprisingly modern. The use of books

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[19] Owen, "Second Essay on the Formation of Character," 1813, p. 2.
[20] Owen, "Third Essay on the Formation of Character," 1816, p. 80.

was discouraged, much of the curriculum consisted of singing, dancing and playing, and Owen went as far as to have the children dressed in Greek-type tunics and kilts. He writes:[21]

> The children were not to be annoyed with books; but were to be taught the uses and nature or qualities of the common things around them, by familiar conversation when the children's curiosity was excited so as to induce them to ask questions respecting them. . . The schoolroom for the infants' instruction was . . . furnished with paintings, chiefly of animals, with maps, and often supplied with natural objects from the gardens, fields and woods,—the examination and explanation of which always excited their curiosity and created an animated conversation between the children and their instructors, now themselves acquiring new knowledge by attempting to instruct their young friends, as I always taught them to think their pupils were, and to treat them as such.

Owen disapproved of artificial incentives, and there were no rewards or punishments at the school. Each course of instruction was carefully worked out,[22] and great attention was paid to the general welfare of the children. There are many accounts of the school, all of which are too long to quote, but the following extract from the account of an American visitor gives some indication of the atmosphere in which the instruction was conducted:[23]

> He [a teacher] first introduced us into a large hall, containing much of the apparatus used in Mr. Owen's system of education. Among other articles were large historical charts, covering the walls of the apartment . . . a terrestrial globe six feet in diameter, and a suite of emblems designed to illustrate the principles of English grammer. The last invention has at least the merit of being ingenious. It consists in personifying the parts of speech, and in assigning to each its relative importance according to the military system. General Noun figures in his cocked hat, sword and double epaulettes. By his side stands Colonel Verb, and so on down to Corporal Adverb.

The school was free, and although attendance was not compulsory, most of the children at Lanark attended it. John Griscom, Professor of Chemistry and Natural Philosophy at the New York Institute who visited the school in 1818, in the course of describing the teaching of younger children, has something to say regarding attendance:[24]

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[21] Frank Podmore, *Robert Owen: A Biography*, vol. I (London, 1906), pp. 133-134.

[22] Robert D. Owen, *An Outline of the System of Education at New Lanark* (Glasgow, 1824), Appendix.

[23] Podmore, *Robert Owen*, p. 144. The quote is worth reading at length.

[24] *Ibid.*, p. 143.

> One apartment of the school afforded a novel and pleasing spectacle. It consisted of a great number of children, from one to three or four years of age. They are assembled in a large room under the care of a judicious female, who allows them to amuse themselves with various selected toys, and occasionally collects the oldest into a class, and teaches them their letters. They appeared perfectly happy, and as we entered the little creatures ran in groups to seize their benefactor by the hand, or to pull him by the coat, with the most artless simplicity. This baby school is of great consequence to the establishment, for it enables the mothers to shut up their houses in security, and to attend to their duties in the factory, without concern for their families.

American and Continental visitors were not uncommon—the Czar of Russia was one of the visiting celebrities—for the school was to achieve international fame. How many of Owen's ideas on education were original it is hard to say. Many of them seem to have derived from Rousseau, and he was well acquainted with the famous "Lancastrian System." Owen was later to visit the well-known Continental schools of Oberlin and Pestalozzi, and to send his son to Fellenburg's school in Wales. Yet he seems to have established his system quite independently of these men, and in many senses he went far beyond them. For education, to Owen, was a part of the fundamental basis of society. He introduced it against great opposition from his partners, into a social framework where it had previously had no place, and he understood its use in establishing a social order. His methods were far too advanced for his times, and they were to arouse enough opposition (from his Quaker partners) to bring about the collapse of the system.

It was, however, more than the mere methods which were in advance of the times. The time was yet to come when the children of the industrial poor were to be regarded as educable material: when not only business but society at large was to regard the working man as a person who could be developed to a point where he could contribute to the improvement of economic and social conditions. In his educational experiment, Owen was anticipating a concept which only in recent times has been accepted by the businessman as part of his approach to administration.

BUSINESS OPERATIONS

In discussing Owen's social and educational ideas, we must not lose sight of the fact that it was within the framework of business that these ideas were being carried out. However we define the scope or limitations of business, it is against Owen's business success that these ideas must be judged.

It is not easy to assess Owen's capabilities as a businessman. Certainly he was financially very successful, and some measure of that financial success can be estimated from the various refinancings through which the New Lanark mills passed. The original partnership lasted for ten years, at the end of which time, after paying 5 per cent per annum on the invested capital, the profits of the firm amounted to £60,000. This presumably included the profits on the sale of the business to the new partnership, which bought the business for £84,000, or £24,000 more than had originally been paid to Dale.

The first partnership had collapsed because of Owen's disagreement with his partners over his "innovations." The second was to collapse only four years later for the same reasons. Owen, indeed, was forced to resign his position as mill manager, and he began to search for men and capital to reorganize once again. His partners, who were confident that he would be unable to obtain support, demanded a public auction in the hope of obtaining what was a very profitable enterprise at a cheap price. However, Owen was able to meet their bids and eventually bought the property for £114,000. He states that after 5 per cent was paid for interest on the capital, the business had realized in the four years a profit of £160,000 which also presumably includes the increase of £30,000 on the purchase price.[25]

This financial success must, however, be judged against existing economic conditions. The first ten years were a period of boom for the cotton industry, and great profits were the order of the day. In assessing Owen's success we must remember that he was able to surpass this profit level in spite of his outlay on "innovations." Here were the "business results" which he mentions in the passage on page 138 of this paper. Yet, in spite of them, it was with the greatest difficulty that Owen was able to persuade his partners to pay full wages during a four-month period of work stoppage in 1806.

The third group of partners were in no sense businessmen. They included three eminent Quakers, a dentist, a future Lord Mayor of London, and Jeremy Bentham, the great Utilitarian. The new partnership agreed to run the mills essentially as a social experiment. Apart from the usual 5 per cent which was paid as interest on their capital, all the profits were ploughed back into the business to facilitate the reforms which Owen had initiated. It is likely that the finan-

[25] Owen, *Life of Robert Owen*, pp. 91, 98; G. D. H. Cole, *Robert Owen* (Boston, 1925), p. 83.

cial stability which this ensured contributed to the success with which the mills were able to weather the depression of 1816. It is apparent, however, that the financial arrangements were considered at the time to be ludicrously unbusinesslike. At this stage not even Owen believed that he was simply conducting a business operation. He had enlarged the area of business responsibilities to a point where "business" at the time was unable to embrace them. Today the theory of the economics of high wages and good conditions is accepted as a sound business principle. This was not so in Owen's time. Unable (and ironically enough this is in accord with his own theory) to change the social pattern of business sufficiently to achieve his purpose, he was to turn to "society at large" for a conceptual framework which, while big enough to accept his ideas, was too big to give those ideas any measure of practical success.

It is difficult to discover the actual extent to which Owen was concerned with business operations at New Lanark. We can surmise that, once he had been able to place the business on a satisfactory footing, he devoted his energies to administering the community organization. It is probable that he acted in an advisory capacity to Humphries who was, we may assume, largely responsible for day-to-day factory administration. In his later years at Lanark, Owen was to devote much of his time to writing and travel. Although he retained his managership until 1824 and his financial interest until 1828, the business was not occupying the major part of his attention and interests very long after 1820, when he was entering into his fifties.

CONCLUSION

Owen describes his break with New Lanark as being the result of a disagreement with his partners who objected to the way the school was being run. Evidently they disapproved of the singing and dancing, and considered the dressing of children in Greek tunics to be immoral. Yet it is evident that Owen was gradually losing interest in his "limited experiment." In his writings and public statements he had begun to formulate methods by which his experiment could be extended to society at large, and it is evident that his religious and social ideas were meeting with a resistance which was not limited to business circles. Accordingly his personal prestige began to suffer in just those circles where the possibility of giving them practical application might have met with a measure of success, and what he had already achieved began to be discredited. His educational experiment was the first to

die, and the mills at Lanark were eventually to relapse into the general pattern of business operations of Victorian England.

Owen was still to bring his influence to bear on many of the important social movements of the nineteenth century, but as time went on he began to express his ideas in an unreal and isolated intellectual atmosphere, which was not conducive to successful social experiments. The community experiment at New Harmony in Indiana was to die an early death, and the writings of Owen's old age were to be disregarded as the meanderings of a boring eccentric. He died in 1858, a convert to spiritualism.

It was an uninspiring end for a man whose influence was so great in many movements which were not to achieve fruition until recent times; and we can speculate on the further influence that he might have exerted, on both public affairs and the future course of business, had he been content to remain at the head of the business operation at New Lanark. Yet such speculation is in a sense unreal, for the ideas on which New Lanark was built could not be contained within the framework of nineteenth-century business. Owen wrote in 1820:[26]

> Peace, good will, charity, and benevolence, have been preached for centuries passed; nay, for thousands of years, yet they no where exist; on the contrary, qualities, the reverse of these, have at all times constituted the character, and influenced the conduct of individuals and of nations, and must continue to do so, *while the system of individual rewards and punishments is permitted to constitute the basis of human society.*

The italics here are Owen's, and this is a very sweeping statement. Yet it does illustrate how much importance Owen attributed to the ethical principles and social ideas which he felt lay at the basis of any organization, and for which he could find no place in business.

Much of Owen's importance to us today comes from the fact that we are constantly discussing the extent to which such ideas and such principles are part of the area of business responsibility. In tracing the origin of our thinking on these matters, we can see in Owen's work as a businessman an early attempt to integrate a set of social and ethical ideas into the framework of business operations.

A great deal of research remains to be done that this paper has not been able to cover. A more detailed analysis of how Owen's thinking reacted with his business activity is required, if we are to fully understand and assess the extent of the integration which we have herein

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[26] Robert Owen, *Report to the County of Lanark* (Glasgow, 1821), pp. 55-56.

mentioned. Such an analysis of Owen's work must be compared with the efforts of other early businessmen and administrators, if we are to arrive at a knowledge of the historical origins of our own present thinking on the responsibilities and methods of business.

Such a detailed study and comparative analysis are a part of the work of Business History which is still to be done. It has been the limited purpose of this paper to try to point out the importance of this work, and tentatively to suggest one area in which it could be attempted.

PETER GORB
Harvard University

Iron Manufacturing in Southern Utah in The Early 1880's: The Iron Manufacturing Company of Utah

Building "Zion" in the intermountain West was a constant challenge to the officers and members of the Church of Jesus Christ of Latter-day Saints (Mormon) in the last half of the nineteenth century.[1] The practical problem of developing a balanced and progressive economy in the arid mountain valleys and formless desert wastes of the Great Basin required perseverance, coöperation, and intelligent planning. The development of Utah is unique among western states in the form and extent of group planning and in the close supervision and direction of social and economic activities by a dominant church. The heroic efforts of the religious leaders of early Utah to develop the resources of the Great Basin are partly responsible for the progressive growth of employment and production after the permanent settlement of the region in 1847.

One of the most important phases of Mormon economic activity centers around the numerous attempts of Church leaders to develop iron manufacturing in southern Utah. The organization of the Iron Manufacturing Company of Utah in 1883 represents a valiant but little-known effort on the part of Mormon leaders to produce iron in economic quantities. The Iron Manufacturing Company of Utah, with the financial support of the Mormon Church, acquired extensive coal and iron mining properties in southern Utah, bought a railway, hired experienced workers, set up a "pilot" plant, and conducted experiments over a two-year period which showed considerable promise. Though the venture failed to meet the high hopes held out for its success, there can be no question that it was conceived and executed in the spirit of economic statesmanship.

[1] In establishing their theocratic commonwealth in the Great Basin, the Mormons revived many biblical concepts, among which was that of gathering the faithful to "Zion"—a holy place. Every Latter-day Saint worthy of the name was expected to use his talents and property in such a way as to build Zion into a veritable Kingdom of God on earth.

I

The Iron Manufacturing Company of Utah was not the first—as it was not the last—attempt to develop an iron industry in southern Utah. The first effort was made by the Pioneer Iron Company in 1851-1852.[2] This company was succeeded by the ill-fated and costly Deseret Iron Company, which operated from 1852 to 1858.[3] In 1869 the Union Iron Works (later incorporated as the Utah Iron Mining Company) attempted unsuccessfully to revive the industry.[4] These companies were followed in 1873 by The Great Western Iron Mining and Manufacturing Company which enjoyed a minor success in almost three years of operation.[5] All of these companies owned and operated iron mines at Iron Mountain, Iron County, Utah, and coal mines near Cedar City, Utah. All of them received encouragement—and in some cases financial aid—from the Mormon Church as well as from the Territorial Legislature. In each case company officials regarded their enterprises as of a public rather than as of a private nature. All of them were Mormon enterprises.

The locale in which these companies operated is on the edge of the bleak and forbidding Escalante desert about 250 miles southwest of Salt Lake City. Iron Mountain is about nine miles west of the important Union Pacific junction of Cedar City; and "Old" Iron City, where some of the furnaces and ovens used by these companies are still in evidence, is on the southern end of Iron Mountain, about twenty miles southwest of Cedar City. Among the "rolling sage plains and desert buttes," of this area *Union Pacific*, *The Good Earth*, and *My Friend Flicka* were filmed.[6]

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[2] For a description of the Pioneer Iron Company, see the speech of William R. Palmer at the dedication of the marker which marks the site of the pioneer iron industry, "Christmas Bulletin" of the Minnequa Historical Society, December, 1938, pp. 18-23.

[3] John G. Crook, "The Development of Early Industry and Trade in Utah" (Unpublished Master's Thesis, Department of Economics, University of Utah, 1926), pp. 37-64.

[4] *Deseret News*, May 18, 1870; August 30, 1871; *Salt Lake Herald*, December 16, 1871;"Record of Incorporations," Iron County Court, Book A. This company was also known as the Pinto Iron Company because its townsite, "Iron City," was located on the Little Pinto Creek.

[5] *Deseret News Weekly*, October 8, 1873; *Deseret News*, June 24, 1874; November 11, 1874; October 1, 1875. This company was reincorporated in 1874 under the name, "Great Western Iron Company."

[6] Utah Works Progress Administration, *Utah: A Guide to the State* (New York, 1945), p. 298.

II

The Iron Manufacturing Company of Utah, which purchased in 1883 the properties previously owned by the Great Western Iron Company, was organized in answer to the challenge of (a) abundant iron and coal resources in close proximity in southern Utah, and (b) the growing unemployment and underemployment of skilled workers in "Zion."

That Utah's early industrial and religious leaders were not pursuing a hopeless will-of-the-wisp in their efforts to set up extensive iron works, may now be regarded as definitely established. The general consensus of opinion now would probably support Gustive Larson's estimate that the mountain of iron near Cedar City contains about 200,000,000 gross tons of 52 per cent iron ore.[7] At the present rate of use, this ore will not be exhausted for a hundred years. If further proof of the vision of pioneer iron leaders is required, one need only point to the magnificent Geneva Steel Works which represent everything they strove for (except, of course, "home-owned industry").

These iron and coal resources had been discovered for the Latter-day Saints in December, 1849, by the Southern Exploring Company, captained by Parley P. Pratt. This party, under commission by the leader of the Mormons, Brigham Young, to explore southern Utah and give an account of its resources, reported finding "a hill of the richest iron ore" (later named Iron Mountain) and probable large stores of coal because of the "inexhaustible" supply of cedar at what was called "Cedar Canyon" on "Muddy (later named "Coal") Creek."[8] It was upon the basis of this report that Brigham Young "called" a group of men in 1850-51 to colonize the "Little Salt Lake Valley" and develop these resources. These "iron missionaries"—for that is precisely what they were —founded the Pioneer Iron Company, which is the pioneer manufacturer of iron in the West as well as in Utah. Many reasons have been given for the failure of this and succeeding attempts to establish a successful iron manufacturing industry: capital was insufficient; the required skill was lacking; nature was uncoöperative; the sulfur content in the coal was too high to permit coking with prevailing techniques; and the competition of eastern industry, especially

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[7] Gustive O. Larson, *Cedar City, Gateway to Rainbow Land: A Community Portrait* (Cedar City, Utah, 1950), p. 46.

[8] L. D. S. Journal History (MS in the Church Historian's Office, Salt Lake City, Utah, hereafter referred to as "JH"), December 29, 1849.

after the completion of the transcontinental railroad in 1869, made supplies more abundant and reduced prices. Though iron of various types was produced in limited quantities by each of the successors to this pioneer company, none proved to be profitable in the narrow sense and none lasted more than a few years. None established production on a permanent basis. Repeated failure, however, did not seem to produce discouragement. Iron and coal existed in abundance; and the iron, if not the coal, was of high quality. The presence of these vast unworked deposits was a constant temptation to businessmen and Church leaders, and editorial writers never ceased prodding these leaders to initiate what promised to be Utah's great industry. "Utah is bound at some time to be a great iron-producing and iron-consuming country"[9] is a phrase which was repeated again and again in the Church newspaper, the *Deseret News*.

The pressure of population on the land in southern Utah, especially after 1877, grew progressively greater. The concept of "the gathering," by which the constantly increasing foreign and American membership of the Church was urged to come to "Zion" to dwell, accentuated the problem of unemployment and underemployment. Founding new colonies was one way of providing economic opportunity for these people. Generally speaking, however, the land in Utah which it was profitable to irrigate was already in cultivation by 1877 (the year of Brigham Young's death). Additional Mormon colonies, therefore, were founded, during the next twenty-five years, in Arizona, Colorado, New Mexico, Nevada, Idaho, Oregon, Canada, and Mexico. In these "fringe" settlements Mormon colonists found cheap land and readily accessible water (in limited amounts). The colonies were sponsored, and in most cases given financial assistance, by the Mormon Church, whose officers were hopeful that the colonies would be sufficiently successful to provide an outlet for the growing surplus population of Zion.

The newly established settlements, nevertheless, failed to attract colonists in quantities. It became evident to John Taylor, Brigham Young's successor as president of the Latter-day Saints,[10] that further

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[9] *Deseret News*, April 20, 1881.

[10] The spiritual and business affairs of the Mormon Church are under the general direction of a First Presidency, consisting of a president and two "counselors," and the Council (or Quorum) of Twelve Apostles. The president of the Church also serves as legal "trustee-in-trust" of all Church property. The collection

stimulation of "home industry" was an alternative answer to Utah's growing unemployment problem. President Taylor and other general authorities of the Mormon Church devoted much of their time to the efforts which would establish new manufacturing in the desert commonwealth. New "home" industries received extensive organizational and financial support from the Latter-day Saints Church from 1879 to 1884, at which time the antipolygamy "crusade" forced nearly all Church leaders into hiding. The Iron Manufacturing Company of Utah was one of a considerable number of "home" companies which were organized during this period. Evidence that Mormon policy in regard to iron manufacturing was influenced by the economic conditions in southern Utah is furnished by Abraham H. Cannon, son of President Taylor's "counselor," George Q. Cannon, and secretary of the Iron Manufacturing Company of Utah.[11]

> Our leaders realize that some industry must be established in the south, or that country will gradually become depopulated, as there is not sufficient land and water to sustain even those who are now there, and some of the best families are beginning to leave. Consequently, it is thought advisable to commence this new industry, which, if successful, will be a blessing to the community, the investors, and especially to Southern Utah.

It is no accident that this significant effort to establish an iron industry followed shortly after the commencement of colonization in Arizona and New Mexico. Migrations from southern Utah temporarily relieved the seriousness of the deteriorating man-land ratio, but the reappearance of unemployment in the 1880's prodded Church officials into establishing an industry (or industries) suited to the resources of the region.

III

The steps which led to the formation of the Iron Manufacturing Company began with an organization called Zion's Central Board of Trade which had been established in April, 1879, in Salt Lake City, by President John Taylor. [12] A practical type of coöperation on a region-

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of tithing, the construction of buildings, and the management of land projects are handled by a Presiding Bishop and two counselors. See G. Homer Durham, "Administrative Organization of the Mormon Church," *Political Science Quarterly*, vol. lvii (March, 1942), pp. 51-71.

[11] JH, July 27, 1883, p. 6. It is interesting to note that Cannon was only twenty-four years of age at the time he made this statement.

[12] See the writer's "Zion's Board of Trade: A Third United Order," in *The Western Humanities Review*, vol. v (Winter, 1950-51), pp. 1-20.

wide scale, Zion's Central Board of Trade was to be parent to local boards of trade which were organized by Church officials in every "stake" (or major settlement center) in existence at the time.

Among the many objectives of Zion's Central Board of Trade was the encouragement of home manufactures. It was the hope of President Taylor that the initiative in the promotion of local industries would be taken by the stake boards of trade. The failure of these to do so required action by the central organization,[13] which was under the direction of the general authorities of the Church and leading Mormon businessmen. One year after the organization of Zion's Central Board of Trade (1880) the mining districts in southern Utah were visited by Professor John S. Newberry of the Columbia University School of Mines. Professor Newberry was amazed at the coal and iron resources in the area and encouraged local Latter-day Saints officials and business leaders to take the initiative in patenting and developing the rich store of mineral wealth.[14] After investigating property claims, Henry Lunt, bishop of Cedar Ward and leader in the Pioneer Iron Company thirty years previously, conversed with President Taylor about securing for the Church patents on a coal mine and some iron mines near Cedar City. The Council of Twelve Apostles of the Church, in conjunction with the First Presidency, appropriated $5,000 to help pay surveying and filing expenses. It was agreed that two-thirds of the property would be owned by the Church and one-third by Brother Lunt. President Taylor thought the proper agency to arrange for the development of these valuable properties was Zion's Central Board of Trade. As president of Zion's Central Board of Trade (as well as president of the Church), Taylor called a special four-day conference of the central and stake boards of trade to be held in May, 1881. The purpose of the conference was to "arrive at a better understanding of what is needed to more thoroughly develop and assist home industries . . . and to utilize the natural resources of the Territory."[15] A circular was issued with a prospectus of nineteen

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[13] *Deseret News*, April 7, 1884. Remarks of George Q. Cannon.

[14] A few weeks later Professor Newberry read before the National Academy of Sciences a lengthy account of the iron and coal veins in southern Utah. He said: "Its iron ore is without rival, and the Territory possesses, not far from these ferruginous beds, four thousand square miles of coal veins that are equal to any in Illinois." *Deseret News*, January 21, 1881.

[15] *Ibid.*, April 20, 1881.

topics to be discussed by the conference. The first topic on the agenda was "Manufacture of Iron and Coke," in regard to which the following notation is found on the circular:[16]

> The deposits of iron ore in Utah are said to be the largest in the world, and the manufacture of ore into iron would be the means of giving employment to hundreds of our people, who though skilled in its manipulation are today engaged in less profitable and congenial employments.
>
> Fuel being required in large quantities, the manufacture of coke would come under this heading, being a necessity for making finer grades of iron.

The Church newspaper, the *Deseret News*, editorialized at the time of the distribution of the circular that, "Iron, no doubt, can be made in Utah to supply all this rapidly opening region with the most precious of metals, and the railroad facilities and prospects are such as to warrant not only large consumption of the invaluable article, but cheap and speedy transportation to the points of demand." The editorial then concludes with the phrase quoted before, "Utah is bound at some time to be a great iron-producing and iron-consuming country."[17] The abundance of human resources for this undertaking was stressed, for a large share of the Mormons were emigrants from the factory towns of England. Tullidge expressed the contemporary view as follows:[18]

> The Mormons are eminently a manufacturing community and Utah is a mineral country with a great mining and manufacturing destiny before her. Hitherto, the community has not been engaged in their proper and special work. Natively they are a manufacturing people rather than an agricultural, and our Territory very much resembles Great Britain in its resources of iron and coal and the class of industries which properly belongs to her. The majority of the British Mormons are from the manufacturing and mining districts of England, Scotland, and Wales. Thousands of them were workers in the old country. . . .And yet the British people in Utah have not been engaged in scarcely any of their native industries. . . .

At the conference of the Central Board of Trade, the founding of an iron industry occupied almost two days of discussion. The decision of the delegates, who were from all parts of the territory, was to appoint a committee with the following instructions:[19]

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[16] *Idem.*

[17] *Idem.*

[18] *Tullidge's Quarterly*, vol. i (1881), p. 420.

[19] *Deseret News*, May 20, 1881.

> . . . take all necessary steps to organize a company for the manufacture of iron and coke. Those necessary steps will be the preparing of articles of incorporation, opening books and soliciting subscriptions of stock thereto, the capital to be fixed at a nominal sum, with powers to enlarge the same, as circumstances may require, to the extent of a million dollars. It is understood the company, when formed, will proceed to test thoroughly the different qualities of iron ore and coal in the Territory, so as to arrive at as thorough a knowledge as practicable, how best to make these minerals subserve the end in view.

The iron committee, appointed by President Taylor with the approval of the delegates, consisted of such outstanding men as William Jennings, chairman, William H. Hooper, John Sharp, Thomas Taylor, Abraham O. Smoot, Henry Lunt, and William B. Preston. All these men were outstanding Mormon business leaders as well as men high in the councils of the Church. They were instructed to prepare a complete report for presentation at the October, 1881, meeting of Zion's Central Board of Trade, to be held in conjunction with the semi-annual conference of the Church.

Of the committee members Thomas Taylor seems to have been particularly active in promoting the industry.[20] He had acquired some of the mining properties and had a personal interest in seeing that they were developed. During the summer the properties of Taylor, Lunt, and the Church—all located at Iron Springs, nine miles west of Cedar City—were offered to the committee at what were described as "very reasonable terms."[21] Shortly thereafter, August 25, 1881, the Utah Iron Manufacturing Company was organized in Salt Lake City. The limit of the capital stock was set at $1,000,000, although only $50,000 was subscribed at the time of the organization. The officers of the company were president, William Jennings; vice-president, Amos Howe; directors, John Sharp, Feramorz Little, John Taylor, William H. Hooper, and H. S. Eldredge; secretary, John R. Winder; and treasurer, Lewis S. Hills.[22] The investment of the Church in this company seems to have been slightly over $5,000.

One factor which gave the investigations of the committee a note of urgency was the possibility of development by eastern capitalists, which, it was feared, would strengthen the hand of the "Gentile" (non-Mormons) in this mountain country.

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[20] Taylor appears to have had no blood relationship to President John Taylor.
[21] *Deseret N-* August 8, 1881.
[22] *Ibid.*, August 26, 1881.

At the October, 1881, meeting of Zion's Central Board of Trade, the iron committee officially reported to an enthusiastic audience the incorporation of the Utah Iron Manufacturing Company. Stock subscriptions were increased sufficiently to begin operations,[23] but the lateness of the season prevented an immediate beginning. Plans were projected for commencing in the spring of 1882.[24] One of the plans concerned the construction of a 150-mile railroad connecting the mines with the Utah Southern Railroad terminal at Juab.[25] (Juab—originally called "Chicken Creek"—was about fifteen miles southwest of Nephi.) This railroad, of course, would have been a very ambitious undertaking for Utah capital; there is no indication as to whether the line was actually surveyed.

None of the plans of this particular company were to be carried out, however. As with many western companies at the time, the Utah Iron Manufacturing Company was forced into litigation to prove some of its best mining claims. A wealthy (non-Mormon) mining magnate, A. G. Campbell, and associates, allegedly "jumped" some of the claims of Thomas Taylor which were to be worked by the company.[26] The extent to which the claims were actually "jumped" is impossible to determine, but the property in question remained in litigation until 1884 when both parties compromised their claims. As the result of the court case, the designs of the Utah Iron Manufacturing Company and its sponsoring Board of Trade committee were at first held in abeyance, then dropped. This irritating interference was sufficient to end one attempt of the Church, through Zion's Central Board of Trade, to promote the development of iron manufacturing in southern Utah.

IV

Two years after the organization of the Utah Iron Manufacturing Company, however, the Church First Presidency resolved once more to attempt the development of its iron and coal claims, particularly those on which patents were uncontested. To fulfill this purpose, the Iron Manufacturing Company of Utah was organized in July, 1883. Capital stock consisted of 250,000 shares of $1.00 par-value stock, with a proviso for ultimately increasing the capital stock to

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[23] *Ibid.*, October 12, 1881.
[24] *Salt Lake Herald*, November 4, 1881.
[25] *Ibid.*, April 22, 1881.
[26] *Deseret News*, November 30, 1881.

$2,000,000. At the time of its incorporation 175,450 shares were subscribed for, of which 106,500 shares went to Thomas Taylor in return for his properties, and 62,500 shares went to the Church—represented by John Taylor and George Q. Cannon—in return for its property claims.[27]

George Q. Cannon was chosen president of the new company and Thomas Taylor, vice-president.[28] Iron mining properties acquired by the company were located in the Pinto and Iron Springs Districts, where seven United States patents had been obtained. The most valuable of these claims was the "Big Blowout" which the historian, Bancroft, reported to be "a solid mass of magnetic ore near Iron Springs, with a length of 1,000 feet and half that width" and with an estimated 3,000,000 tons near the surface.[29] These and adjacent properties are the ones from which Geneva Steel today receives its rich supply of iron ore. The coal claims of the Iron Manufacturing Company, for which government title was also obtained, were located in Cedar Canyon. In addition, the company purchased the plant of the Great Western Iron Company at a location four miles southwest of Iron Mountain, called Iron City. About twenty-two miles west of Cedar City, this plant included a blast furnace (with a capacity of two tons of pig iron per day), machine shop, engine house, pattern shop, foundry, store, schoolhouse, and residences.[30] It was

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[27] It does not necessarily follow that $62,500 represented the cost of the Church's iron and coal claims. It is the writer's guess—and only a guess—that the cost of the patents obtained by the Church (and by Thomas Taylor) was one-tenth of the value given the claims when they were exchanged for stock in the Iron company. Thus, Taylor's claims would have cost $10,650, and the Church's property rights would have cost, originally, $6,250. The value of the remaining initially-subscribed stock, $6,450—all of which was subscribed by prominent Mormon businessmen—seems to have been the operating cash of the company at the time of its organization. The company eventually sold about 220,000 shares of stock, which would have represented $51,000 in cash and $169,000 in property. It is probable that some of this additional stock—say $20,000 worth—was later taken by the L. D. S. Church to push the enterprise along.

[28] Incorporation papers on file with the Secretary of State, Salt Lake City, Utah.

[29] H. H. Bancroft, *History of Utah; 1540-1886* (San Francisco, 1889), p. 735.

[30] *Deseret News*, February 28, 1948. See also Joseph Daniels, *Iron and Steel Manufacture in Washington, Oregon, California and Utah* (University of Washington Engineering Experiment Station Series, Report No. 2 [Seattle, 1929]), pp. 10-15.

the intention of the Iron Manufacturing Company to erect a pilot plant to test the technical possibility and the economic profitability of iron manufacture in southern Utah. Specifically, according to its president, the company intended to "erect furnaces for the manufacture of pig iron," and "to gradually extend to other branches."[31] The president further announced that everybody who had "the welfare of [Utah] Territory at heart [was] invited to subscribe for stock."

Shortly after its organization the company hired Richard S. Robertson, who was reputed to be an experienced ironmonger, to superintend the building of blast furnaces at Iron City,[32] and he commenced work immediately. At the annual meeting of Zion's Central Board of Trade in October, 1883, the vice-president reported completion of the excavation for the main building and acquisition of the foundation rock. "Most of the iron required for the construction of the furnace," he stated, "has been arranged for on very favorable terms. A considerable amount of supplies for the hands is already stored in the company's storehouse, and it is intended that the work of constructing the large furnace [four times as large as the one formerly in use] shall move right along as fast as practicable. In addition to the blocks of stock subscribed in this city [Salt Lake City], several thousand dollars has been taken in the Southern settlements."[33]

Some twenty men were employed throughout the fall. One hundred tons of pig iron for castings were purchased for the construction of a hot-air furnace during the winter. It was hoped to have the works in full blast by the summer of 1884.[34] The blast furnace was to be built of rock and lined with fire brick manufactured by the company from local materials. The planned productive capacity of this furnace was to be from fifteen to twenty tons of pig iron per day. Officials hoped to add subsequently two more hot furnaces, increasing capacity to fifty tons per day.[35] However, only the foundations for these crude blast furnaces were completed. They still stand as a symbol of frontier enterprise.

At the time of the report of vice-president Taylor, the Central Board of Trade unanimously passed a resolution proposing that the

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[31] *Deseret News*, August 4, 1883.
[32] JH, September 24, 1883.
[33] *Deseret News*, October 5, 1883.
[34] *Salt Lake Herald*, October 16, 1883.
[35] *Deseret News*, October 30, 1883.

Board of Trade "lend . . . influence and support to the Iron Manufacturing Company of Utah . . . and that, as individuals, we subscribe for stock in said Company and use our influence to induce others to become subscribers."[36] Sales of capital stock are reported to have continued throughout the fall of 1883,[37] and from $50,000 to $60,000 were subscribed at the time of the April, 1884, meeting of the Board of Trade.[38] Many of these stock subscriptions seem to have been promises of labor and material rather than cash. This, at least, was the case in a number of other territorial enterprises at the time. Despite these private efforts, however, stock sales did not proceed fast enough to provide the requisite working capital, and it was determined that the Church should advance some cash. President John Taylor mentioned this aid in the April, 1884, annual conference of Saints. The clerk reported him as saying:[39]

> I have been very much interested in the remarks which have been made on . . .the subject of home industries. And I would ask this congregation if I may have the privilege of aiding them as Trustee in Trust. We have some iron works started in the south, and I want to know if this congregation will authorize me to assist those iron works? If you do make it manifest by raising the right hand (a forest of hands went up). I believed that you would feel just so, and I have already assisted them. (Laughter.) There is another thing I want to ask associated with this affair. You have given me the privilege of assisting this industry, now I want to ask if you yourselves, will assist in this matter; and all who are in favor of doing so, hold up the right hand (all hands went up). Now, we will say Yankee Doodle do it.

Although work on the blast furnace had to be suspended because of the severity of the winter, the funds provided by the Church enabled them to buy the Pioche and Bullionville Railroad (also called the Nevada Central Railroad) and transport it to Utah to be laid between the coal and iron deposits and the furnaces. The purchase of this little narrow-gauge mining road included twenty miles of rails, two locomotives, twenty-five cars, turntables, a roundhouse, weight scales, tanks, section-houses, tools, etc.[40] The cost of the Pioche and Bullionville probably did not exceed $25,000. An effort was made to

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[36] *Ibid.* October 10, 1883.

[37] *Salt Lake Herald*, October 16, 1883; (Provo) *Territorial Enquirer*, November 16, 1883.

[38] *Deseret News*, April 7, 1884.

[39] *Idem.*

[40] *Ibid*, January 16, 1884.

have the road transport itself as much as possible by pulling the rails up at the far end, relaying them to the near end, and repeating the operation until Iron City was reached.[41] This method proved too time-consuming, however, and the railroad was actually transported by ox-cart and wagon from Jack Rabbit, Nevada, to Cedar City, Utah—a distance of about eighty miles. This operation was completed by the summer of 1884, when extensive manufacturing was scheduled to begin.[42] Though some of the grading for the road was completed, no tracks were laid. The little road was not destined to be used for its projected purpose. Other factors, as we shall see, were to interfere even while it was being transported to its intended destination.[43]

At first thought, it appears that company officials demonstrated bad judgment in purchasing the Pioche and Bullionville Railroad before testing operations gave clear indication that the Cedar Canyon coal was technically usable for reducing the Iron Mountain ore. Although there is no obligation to assume that Church business (and ecclesiastical) leaders were omniscient, it seems probable that the "premature" purchase of the little twenty-two mile railroad seemed wise from two standpoints: (a) the price seemed, at the time to be a "bargain"; and (b) the impending possibility of new railroad construction in southern Utah would facilitate the sale of the railroad to other interests if the iron enterprise proved to be unprofitable. As to the wisdom of making the other expenditures—on the scale indicated—before adequate experimentation had been carried out on a small scale, favorable judgment is on weaker grounds. The Great Western Iron Company had proved that some types of iron could be produced, at least in limited quantities. Perhaps company officials reasoned that the types of iron production which were known to be technically possible could be produced in economic quantities, and the profits realized from that production could be used to subsidize experimentation in the production of other types of iron. In addition,

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[41] *Salt Lake Herald*, January 17, 1884.

[42] JH, February 11, 1884, p. 14.

[43] According to William R. Palmer, Cedar City, Utah, in a letter to the writer, dated October 16, 1950, the engines, cars, rails, and other effects of the short Nevada railroad were stacked up on a vacant lot belonging to Thomas Taylor. Most of the rails were used in the coal mines around Cedar City, and for other similar purposes, but the remainder of the equipment was sold as scrap iron to a junk dealer during World War I and went to the smelters in Salt Lake County.

Church leaders may have been willing to regard the enterprise as a make-work project whose sufficient justification lay in the pressing unemployment problem among the Saints in southern Utah.

Soon after the April, 1884, annual Church conference a large party of prominent Church and business officials went from Salt Lake City to visit the iron works. The purpose of their visit was to investigate the operations of the pilot plant and determine whether additional expenditures were justified. Included in the group were President Taylor and his counselor, President George Q. Cannon, Presiding Bishop Preston, and his counselor, R. T. Burton, and a committee from Zion's Central Board of Trade consisting of William Jennings, Moses Thatcher, Erastus Snow, John R. Winder, Francis M. Lyman, John R. Murdock, and Elias Morris.[44]

John Sharp and William Jennings were also top executives of the Utah Central Railroad, a subsidiary of the Union Pacific and owner of the Utah Southern Railroad. At the suggestion of President John Taylor these men located a route for a fifty-mile extension of the Utah Southern to run almost due south from Milford along the west side of the mountains to Iron City. The lack of water in the area was to be supplied by boring artesian wells.[45] Since the iron industry was the only justification for the railroad, officials did not plan to build it before 1885, at which time operations at Iron City would require it.

The investigating Board of Trade members, Church leaders, and businessmen are reported to have made the following findings:[46]

1. There was sufficient ore of different types to make almost any type of iron.
2. The ironmonger, Mr. Robertson, had not yet tested the coal to determine whether it would reduce the iron.
3. Some members of the committee felt the furnaces of the company should be located at Iron Springs, on the north side of Iron Mountain, rather than at Iron City, which was on the southern end, and that the work on the pilot plant at Iron City should be halted.
4. A capital of some $500,000 would be required to develop the business. They hoped to raise this money by intensive local subscription.
5. At first, the enterprise would be costly, but the stimulus to home industry would nevertheless make it worthwhile. William Jennings expressed this point of view in the following way: "If we can make a stove, of as excellent a pattern and of as good quality as they do east, the Utah man had rather

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[44] *Salt Lake Herald*, April 17, 1884; *Territorial Enquirer*, April 18, 1884.
[45] JH, May 26, 1884, p. 7.
[46] *Salt Lake Herald*, April 26, May 4, 1884.

> purchase a stove made here if it does cost a couple of dollars more, for the reason that in doing so he creates a market for his own products, and is thus actually making money by saving it as a circulating medium to the community and by sustaining home industries, though ostensibly he is paying out more."

Moses Thatcher, brilliant and energetic young Apostle of the Church, who was active in the direction of many of the Church's business interests, remained at Iron City for almost a month making a careful and thorough examination of the iron mines and coal beds.[47] His report, important as it must have been, cannot be uncovered, and the newspapers of the time are silent about it. Undoubtedly, however, the report was pessimistic. The probabilities are that Thatcher stayed at Iron City long enough for Robertson to test the fluxing powers of the coal. As in all preceding and succeeding experiments with the Cedar Canyon coal, Thatcher and Robertson undoubtedly found the sulfur content of the coal deposits too high to produce good coke. These men, of course, did not have modern technical processes to rely upon. More important, they did not know of the tremendous store of high-grade coal in the Carbon-Emery County area which was later used by Columbia Steel—and now by Geneva Steel—to produce coke.

Technical considerations represented only one phase of the choice confronting these men. In deciding whether to sink more money in the struggling enterprise, it was necessary to give thought to the prospective market. The principal western demand for iron at the time was for rails. Union Pacific was still extending its lines in almost every direction, and Rio Grande Western was building its important network. A large supply of iron would also furnish rails for the contemplated St. George connection with the Utah Southern, and for the projected lines connecting Los Angeles with St. George and Salt Lake City. It was foolish, however, to expect this market to materialize unless the western product could be produced and sold at competitive prices. Moreover, the heavy demand for rails was expected to be temporary, so that other demands would have to be built up to take its place if the iron institution was to be a permanent one.

These considerations were fully realized by Church and business leaders, and were freely discussed in contemporary newspapers. One

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[47] *Ibid.*, May 9, 1884.

of the most thought-provoking statements came from a Beaver correspondent to the *Salt Lake Herald*. He wrote:[48]

> Is there a home market sufficient to justify the expenditure of the money necessary to establish iron works that will be creditable and sufficient. . . . The fact that the people of Iron County need the money, the fact that iron can be made and that cheaply is not sufficient; there must be a market for it when it is made, or the money would be wasted and the expenditure of some $250,000 or $500,000 prove a disaster rather than a blessing to Iron County, as it would bring in more men, more families, and give a temporary market, create a temporary impetus that would work hardship when taken away. . . .

V

At about the time that Church leaders were listening to the report of Moses Thatcher and taking under advisement the technical, economic, and social choices involved, an "outside" factor demanded consideration. The United States government had attempted since 1862, in one way or another, to stop the practice of polygamy and to weaken the Church which was teaching the doctrine. Congressional efforts had not deflected the resolution of Mormon Church leaders to continue the advocacy of this principle which they believed had been commanded of God. Finally, in 1882, the Edmunds Act was approved which provided, among other things, heavy fines and penalties for those guilty of "cohabitation" under the principle of plural marriage. At the time of its passage, the Edmunds Act was regarded in Utah as of doubtful constitutionality. In the first trial case, involving Rudger Clawson, the defendant was convicted in the territorial courts in October, 1884, and his conviction was upheld by the United States Supreme Court the following spring. The success of the trial case sent Federal Deputies scurrying over the territory looking for "cohabs." The "raid" was on. Almost all Church leaders—and this included nearly all Mormon industrial leaders—went into "hiding." President John Taylor's last public appearance was February 1, 1885, in the Salt Lake Tabernacle. He, for one, died while still "underground" in July, 1887.

Concerned over the "antipolygamy crusade," and preoccupied with the preservation of the Church from this frontal assault by Congress, Mormon leaders discontinued their plans to establish an iron industry. Whether the project would have been abandoned in any event as the result of the unfavorable Thatcher report is problem-

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[48] *Salt Lake Herald*, April 18, 1884.

atical. After late summer, 1884, the Iron company held no further meetings, and expended no more money. Bishop Thomas Taylor still attempted to promote the industry, but the forces of opposition —internal and external—were too strong. He attempted to "disprove the notion that coke could not be made from Iron County coal because it contained sulfur."[49] He wrote promotional letters to the regional papers, and attempted to interest wealthy capitalists, both Mormon and non-Mormon, both regional and national. These efforts were to no avail. It was with great sadness that a Cedar City "observer" found it necessary to write in 1886: " . . . today, as far as the iron industry is concerned we are quiet as a church yard, and nothing left to remind us of our past hopes and great anticipations, but the roadbed . . . a few pair of railroad car wheels, a portion of a locomotive and tender, and a few hundred feet of rails, all of which seems to be quietly laid away, at least, until times brighten up. . . . "[50]

VI

One interesting aspect of the Iron Manufacturing Company of Utah is the light it throws on the role which President Taylor and his counselors expected the Church to play in temporal organizations of this type. The Church, it will be noticed, coöperated with private capitalists in the enterprise, and there seems to have been no inclination on the part of Church leaders to insist upon formal or informal Church control. So long as the enterprise was "Mormon," it did not seem to be important to Church authorities whether it was completely or partially Church-owned, or whether the Church merely furnished the company money on open account without holding a proprietary interest. It was sufficient, in their point of view, that the trial plant be built and the firm organized, and that the Church use community savings (tithing) to help out whenever and however it could. The Church's policy was to stimulate and encourage. It is somewhat reminiscent of the role played—at about the same time—by the Japanese government of the Meiji restoration in the industrialization of that island economy. The economic role of the Mormon Church, at least in this instance, was conceived to be one of benevolent paternalism. The Church proposed to supplement private capital, not to replace it or ignore it. There was no tendency to build up the business

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[49] *Deseret News*, August 16, 1884.
[50] *Salt Lake Herald*, October 6, 1886.

interests of the Church as such, although there was a distinct desire to build up *Mormon* business interests. The Church wanted the iron enterprise to be a "people's" project. This is further indicated by the policy of pricing the stock at $1.00 per share so that every widow and orphan could buy a share and participate in the great work of "building up the Kingdom of God in the mountains."

All told, the Mormon Church probably invested $25,000 in the iron enterprise before its abandonment. The tithing disbursement records of the Church in the Iron County area, to which the writer has not had access, might indicate the amount and type of such aid. Most of the assistance rendered by the Church probably was in the form of provisions for workmen, equipment, and supplies. One cannot rule out the possibility that the Church furnished some actual cash, but a large share of Church expenditures on other similar projects at the time was in the form of provisions supplied by the ward and stake tithing storehouses, and it seems reasonable to suppose that the Church's contributions to the iron industry were of this nature.

Obviously, the investment of the Church and other stockholders was not a complete loss. The Church still retained title to the iron and coal claims.[51] After another attempt to promote the development of these claims in the 1890's, the Church eventually sold these claims about the year 1903 to eastern and Salt Lake capitalists. There was also some salvage value in the Pioche and Bullionville Railroad, which seems to have gone to Thomas Taylor and John C. Cutler, the major "private" stockholders. Something may have been realized from other pieces of equipment and real estate, and this may have gone to the minor stockholders. Apparently, the company never produced any commercial product and therefore realized no cash revenues from its operations. The net loss of the enterprise to its investors was probably in the neighborhood of $50,000.

Was the Iron Manufacturing Company of Utah an unwise enterprise? Or simply premature? And might it have been a success if the Edmunds Act had not caused it to die a-borning? The historian finds judgment on such questions difficult without more evidence. In the light of the evidence now available, one would probably be justified in concluding that the chance of success at that time, and the tremen-

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[51] Indeed, the title to these properties seems never to have been transferred to the Iron Manufacturing Company, which was hardly just, if true.

dous possibilities open to the territory if that success was realized, did, indeed, justify the use of the common fund (tithing) and private capital in this test plant. It was a risky venture, to be sure, but one which, if successful, would have paid handsome returns in the form of greater employment, output, and income. It is doubtful if any other employment of Church funds at the time held out the promise—if not the realization—of greater long-run temporal gain to the Church-at-large. The success of the enterprise might have provided a solution to the pressing population problem which was to become more acute still before 1900. The venture, even if only partially successful, would have helped to balance an economy in which agriculture was playing an altogether too-important role.

It may be wondered why Church leaders did not attempt to solve the land problem of the early 1880's in southern Utah by appropriating money for irrigation projects. This would have seemed to be a direct approach to the deteriorating man-land ratio. Obviously, an increase in irrigation facilities in the area was possible. Why encourage movement to Arizona, New Mexico, and Nevada? And why encourage such risky projects as the iron enterprise just described? Two explanations seem plausible.

One explanation is to be found in the nation-wide agricultural depression of the period. The rapid settlement of the public domain which followed in the wake of the railroadization of the nation, the widespread utilization of new machinery and techniques which multiplied production potentialities many-fold, the decline in the foreign market for American agricultural products after 1871, and the contraction in the currency during the thirty or more years after the War Between the States—all of these served to disequilibrate the supply and demand for agricultural products, depress agricultural prices, and create agricultural discontent. It was not until the first decade and a half of the twentieth century that American agriculture was to attain a measure of prosperity, and it was during that later period that the Church (and the federal government) made extensive appropriations for land projects and irrigation works. During the early 1880's the emphasis of Church policy was all the other way. Industrialization was the goal and the slogan; and, of course, it was a rational approach in view of the dismal prospects for agriculture in Utah and elsewhere during that period.

A second explanation of the Church's policy in southern Utah places emphasis on the isolated character of the region. There were

no railroads in southern Utah, and the nearest connection was at Milford, one hundred miles north of St. George—the capital of Utah's Dixie. While agricultural production in the region seems to have been sufficient to prevent starvation, and while there were some "wagon runs" to mining communities in central and northern Utah and eastern Nevada, the lack of railroad facilities prevented the needed expansion of agriculture in southern Utah, and it was impossible for Dixie's semitropical specialties to reach outside markets in paying quantities. Examination of later statements by Church leaders in the area indicates that the Church expected to use the iron enterprise primarily for the manufacture of rails and railway equipment. The local iron industry, it was hoped, would provide the railroad connections which would make the agriculture of southern Utah profitable and capable of sustaining a larger population.

It is unfortunate that Utah writers have left out of their histories the story of this deliberate attempt to develop and make useful the rich mineral resources of Iron Mountain. It is amazing to learn that some historians have assumed that no important efforts in this direction were made after 1858 simply because the enterprises have not been described in historical journals. Much of the praise of Brigham Young as Utah's one and only economic statesman stems from the fact that little research has been done on the accomplishments of his successors. John Taylor, George Q. Cannon, Moses Thatcher, and others, were also engaged in the tough business of building an empire. Less spectacular perhaps, and certainly less noted for their wives, they nevertheless accomplished much in terms of social and economic welfare. The Iron Manufacturing Company of Utah is but one illustration of the manifold enterprises in which these men—and the Church they directed—were interested. Further researeh will show an amazing number of similar enterprises to have been conceived after 1877 which were successful pioneers in the exciting struggle for survival and economic progress.

LEONARD J. ARRINGTON
Utah State Agricultural College

Shoemaking In The Post-Revolutionary Period: The Business Records of Three Cordwainers of Reading, Massachusetts

Three manuscripts in the possession of the Reading Antiquarian Society contain information about the business of shoemaking in the late eighteenth and early nineteenth centuries. One is the journal of James Weston, from 1788 to 1793; the others are account books of John Goodwin, Jr., and John Johnson, covering a somewhat later period. Each presents its distinctive picture of a shoemaker's work, with interesting contrasts. The career of Goodwin, in particular, illustrates one course of development from workman to businessman, which has been followed by many in past generations. It also demonstrates one reason why class lines have been so hard to draw in American experience. Often a man played both the employer's and the employee's roles at different stages of his own personal history, which not only affected his thinking, but also that of many who aspired to follow his example, and were sure it could be done because they had seen it happen. This transition has become more difficult since the development of the factory and its enormous capital requirements, but, in the days before the centralized workshop, enterprise and imagination were often capital enough to launch a business career.

Weston's Journal is a daily record, with no continuing business accounts. He was earlier in time than the others, and his business was correspondingly less intricate in form as well as in his relations with others. Every day, including holidays, he noted down the making of one and a half to three pairs of shoes in his shop. Only on days when he "worked out," either on his own farm, on someone else's farm, or on the roads, did he fail to make his quota of shoes. Sometimes he cut quantities of leather, apparently preparing a large number of pairs to be made up later. By this most elementary form of division of labor, he saved time lost in shifting from one job to another.

He made some custom shoes, but only a handful of instances are recorded as such. Frequently he went calling on long lists of people.

He does not say so, but it seems likely these trips were to drum up business, or to measure people for shoes. The lists seem too long to be explained by social calls. It would appear that most of his shoes were made for sale to wholesalers, but this cannot be proved, either, because he rarely mentioned selling shoes to anybody. He went to Boston every two weeks, with the dependability of fate. As was the general custom, in that time and place, he probably carried saddle bags full of shoes to sell, either lugging them on his own shoulders or slinging them over his horse. December 26, 1789, he went to Boston "and promos Sum Shoes." January 1, 1790, he went again "and sold Mr. Eustis Sum Shoes," perhaps delivering on his promise of a week before. The only sale of shoes for which full details are given occurred on November 21, 1792, when he "sold to Mr. Joseph Bextor Eighty-five pair of Shoes they come to 16/19/6." This averages about four shillings, or 67 cents, a pair. On two trips, he bought a stove and a clock in Boston, but no other shopping there is mentioned, nor does he say how he was paid for what shoes he sold. He "carred twenty Pairs of Shoes" to Asa Hill (February 24, 1788) and four pairs to John Temple (September 13, 1789), both neighbors in Reading. This completes the list of his customers.

Weston's purchases of leather were all from people in Reading, and all in small quantities, though more often than not he noted the purchase without naming the seller. At various times, he bought 32 calf skins and "107 pounds of soulleather." This was far from enough to keep him going, but where he got the rest we do not know. He does not mention doing any tanning, nor having any done for him.

Ezra Cowdray, a neighbor, "Brot 14 Pair of Shoes" (February 23, 1788). Weston might have been buying the shoes for resale at a profit, or he might have agreed to take them to Boston to sell for Cowdray. Cowdray worked for Weston (August 3, 1792), but from the context it appears that he was lending a hand at haying. Another Weston, by the name of John, "begun to workd" on cloth shoes (January 2, 1792), but is not mentioned again. James Weston, the writer of the Journal, "agreed with Mr. Clifton to work for me" (May 29, 1792), and on June 9th "carried him Eighteen pair of Stufs." Twice, another James Weston "was hear and carried home Sum Stufs." Stuffs were parts of shoes, cut but not made. The making—lasting, stitching, finishing—Weston may have been "letting out" for work in homes. In view of the few instances mentioned, it seems most likely that this sort of thing was merely an occasional accom-

modation to Weston, when he was a little overloaded with work, rather than regular employment. Weston never spoke of making shoes for anyone else.

The best explanation for the sparseness of Weston's business record as a shoemaker is probably the fact that he was at least as much a farmer as a shoemaker. During the winter, he spent his days in his shop, seated on his work bench, with the little shop stove on one side, and the water tub, in which to wet his leather, on the other. But in the summer, production of shoes dropped sharply, and there were days at a time when he was wholly occupied outdoors, never entering his shop. There are far more details of his farming and stockraising in the Journal than of the shoe business. Essentially, he was a Yankee farmer, with a sideline in shoes, to make profitable the days when there was no farming to be done. Though he probably called himself a cordwainer, he was one only in the sense that he also worked at that trade, besides doing the farming which was the universal occupation in Reading. He would even put aside his last and hammer to go out by the day doing farm work, or working on the roads, earning, usually, a dollar a day or less. When there were repairs to be done around the house or barn, he either did them himself, or helped the specialist called in to do the job. Only one case of the latter is mentioned, when he had a mason build a new chimney for his shop. But Weston himself pulled down the old one, and was the mason's helper in building the new one. His time was at least as valuable as a mason's helper, farm laborer, or road mender, as in his proper trade of shoemaker. Of course, he was not likely to figure this proposition out as a problem in economics. It was taken for granted that a man should do as much as possible of his own work, no doubt, as it still is in rural areas, and he would be considered "queer" or downright shiftless if he neglected his farm to do nothing but make shoes.

Many details of Weston's daily life are dealt with in his Journal, but we are here concerned solely with his business. His daily notes on the weather are elaborate, as is his record of church meetings and texts of sermons. The farmer in him is exposed by the interest in weather, which is carried so far that the only detail about his parents' funerals is the weather and wind direction. He even interrupts the account of the birth of a child to note a change in the direction of the wind!

The account books of John Goodwin, Jr., and John Johnson, though they reveal little of daily life, tell much more about the shoe business

than does Weston's Journal. This does not mean that their accounts are simple, straightforward business records in any modern sense. Much is missing, much is ambiguous, much must be filled in by inference, or plain guesswork. Each man kept his accounts in his own way, as memos for his own guidance. The account books justified themselves by lessening the strain on the memory, not by constituting a full record of a business. Thus neither book is much help in clearing up doubtful points in the other. This is the more disappointing in that both cover about the same period. Most of the entries are dated between 1809 and 1813. Johnson also has some entries in 1815-1817, 1819-1825, 1827-1828, and 1832; Goodwin, some in 1815-1816, 1819, and 1827-1828. But though the dates are similar, the transactions are markedly different.

The most striking difference is in the matter of buying leather. Goodwin bought it in large quantities, and he recorded prices and even some details concerning the kinds of leather. Nowhere in Johnson's record is there a single word about buying leather. He often mentioned "finding" all or part of the leather for shoes he made, but where he found it the book does not tell. It is inconceivable that a shoemaker making hundreds of pairs of shoes a year should not need to buy leather from the outside, but, if Johnson did so, he kept it a secret from his account book, and, thereby, from us.

Goodwin's account of leather-buying, though it includes many entries, shows no trends in prices, which appear to have been quite stable throughout this period. Some of the entries are called just "leather," others were sides of sole leather, and a few were special varieties of leather. "Leather" probably refers to many kinds. All the purchases so described fall into a period of two years, from October, 1811, to December, 1813. The following lists the prices per pound paid at various dates for "leather":

October, 1811	22 cents	November, 1812	24 cents
November, 1811	23 "	May, 1813	30 "
April, 1812	25 "	June, 1813	30 "
June 6, 1812	21 "	July, 1813	33[1] "
June 6, 1812	22 "	August 21, 1813	30 "
June 13, 1812	25 "	August 28, 1813	22 "
June 24, 1812	26 "	December 11, 1813	24 "
June 27, 1812	22 "	December 21, 1813	25 "
September 1, 1812	26 "	December 31, 1813	26 "
September 19, 1812	22 "		

[1] Given as 2 shillings in the account book.

The list of prices per pound for sole leather sides is equally nondescript:

September, 1811	22 cents	March 24, 1812	21 cents
September, 1811	22 "	October 22, 1812	27 "
October, 1811	22 "	October 28, 1812	24 "
November, 1811	22 "	November 24, 1812	25 "
December, 1811	22 "	November 24, 1812	23 "
March 5, 1812	23 "	November, 1827	23 "
March 24, 1812	22 "	June, 1828	27 "

Where different prices are given on the same date, there is nothing to indicate what difference, if any, there was between the two lots. Though prices in 1812 and 1813 seem to be higher than in 1811, they are not consistently enough higher to justify any more weighty generalization than that prices varied somewhat around 21 to 30 cents a pound. Most sole leather was cut from cattle hides, but uppers, especially on women's shoes, which were the principal product of all three men, were cut from kip[2], calf, and kid skins.

Goodwin bought a side of "uper leather" in January, 1812, for $2.65 but gave no price per pound. It probably did not weigh more than 15 pounds, possibly less. He bought 14 "binding skins" in September, 1811, for 83 cents apiece, and kid leather a year later for $3.12 a side. A sheepskin, in January, 1816, cost him 33 cents, and four sides of "red leather" (in September, 1812) cost 24 cents a pound. It is bewildering to discover him, on November 24, 1813, buying two sides of "yaller lether" at 34 cents and one side of the same at 22 cents. There is no explanation of the difference in price. "Yaller" leather probably was oak-tanned, which is yellowish in color, and red leather probably referred to hemlock-tanned, which is reddish, rather than to a dyed color.

Altogether, Goodwin's recorded purchases add up to 1,262 pounds of "leather," 1,112½ pounds of sole leather, and 148¼ pounds of varieties: a total of 2,522 ¾ pounds. This figure includes some estimates of weights, where none are given in the account book, based on the value and price per pound, so it may not be exact. Of this total, 15 pounds were bought in 1810, 700¼ in 1811, 1,299 in 1812, 483¼ in 1813, and single purchases of small amounts were recorded in 1827 and 1828. In the single month of June, 1812, he bought 341 pounds

[2] "Kips" are small cattle skins, weighing less than 25 pounds.

in five lots. In September of the same year, he bought 227 ¾ pounds, 160 of it in one lot. Two thousand two hundred and twenty-nine pounds, or 88.3 per cent of his total purchases, came from a single source, one Jacob Cantebury. This left 393 ¾ pounds, or 11.7 per cent, from all other sources, mostly in small lots from individuals. The account is obviously far from complete, or the amounts purchased would not fluctuate so much.

Since each pair of shoes contained from one to two pounds of leather, the quantities are not so great as they might seem to be. A man who could make two pairs of shoes a day would use up a great deal of leather. If we estimate the amount used at two pounds per pair, and say he worked twenty-five days a month, he would be using leather at the rate of as much as 100 pounds a month. This rate would just about use up Goodwin's purchases in 1812, leaving him about 100 pounds for other jobs using leather such as mending harness. But this would make no allowance for days spent away from his bench at "outside" work. It seems evident that the amount bought in 1812 was more than he could have been expected to use up by his own labors. And, if 1812 is any standard to judge by, the record for the other years must be considered incomplete, especially since he had men working for him to whom he apparently supplied leather. He might have had a few hides or skins from his own livestock, but it is unprofitable to speculate about that source.

Jacob Cantebury, from whom Goodwin bought almost all his leather, was also his largest customer for shoes. Nearly half the sales recorded were made to this one buyer. Goodwin kept his accounts of the number made, and the prices for each variety, over periods of several months, and at the end of each period reckoned up the total owed him. These listings of many lots at different prices were followed by totals in dollars and cents; though he occasionally wrote a price in shillings and pence, it was always translated into dollars and cents in the totals. He never bothered to add up the number of pairs sold, but he always added up the money. Checking his figures, I invariably got different totals from his. This may have been caused by my not reading his figures correctly: sevens, fours, and nines are easily confused in his handwriting. Or, one of us might be a poor mathematician, of course. My figures, in every case but one, are slightly less than his. The exception is one account which I add up to $56.91. Goodwin got $56.21. Otherwise, my totals are about 2 to

5 per cent less than his. Small differences, to be sure, but puzzling because so consistent.

Goodwin's account book records the sale of 11,749 pairs of shoes. Of these, 5,560 pairs (47.3 per cent) were sold to Jacob Cantebury between August, 1811, and January, 1814. This total is derived from ten accountings, covering periods of from one to four months. (During this same period Goodwin sold over 1,300 pairs to three other buyers, Warren Dammon, Timothy Symmes, and Samuel Batts.) His second largest buyer was the Weston and Temple general store, to which he sold 608 pairs in 1810, and 1,486 pairs between September, 1815, and April, 1818, a total of 2,094 pairs. In the first six months of 1810, he sold 846 pairs to Ephraim Weston, the senior partner in Weston and Temple. Altogether, he sold shoes in lots to ten buyers at various times. Jacob Canterbury is listed in the *Boston Directory* of 1813 as proprietor of a shoe store at 7 Merchant's Row. In spite of the slight difference in spelling, this is undoubtedly the man with whom Goodwin did so much business.[3] Some of the other buyers lived in Reading, though the nature of their business is not revealed in the Reading records.

Goodwin's output of shoes was very large, as the following summary of the number sold each year shows. Since many of his lists cover parts of different years, without clear indication of the exact dates of some sales, I have had to do some guessing in assigning batches to specific years. Therefore, these figures may be subject to some error in detail, though the totals are accurate enough for the purpose of giving some indication of output:

1810	1,454 pairs	1816	1,349 pairs
1811	1,937 "	1817	775 "
1812	2,945 "	1818	356 "
1813	2,730 "	1819	238 "
1814	138 "	1820	36 "
1815	333 "		

It is obvious that there are large gaps in the record, so that any attempt to compare the sales of different years must be given up as

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[3] Cantebury may have stocked leather and shoemakers' supplies to sell to the cordwainers who brought him shoes, as a side line to his main business of selling shoes. For a description of a similar shop, see Blanche Hazard, *The Organisation of the Boot & Shoe Industry in Massachusetts before 1875* (Cambridge, 1921), pp. 49-50.

futile. The curiously complex nature of these accounts is typified by the fact that Goodwin has one list of sales to Jacob Cantebury running from September, 1813, to January, 1814, but he also has separate lists of sales to the same man (without duplications) from October 3 to November 24, 1813, and from December 9 to 26, 1813.[4] It seems likely that he forgot where his current account with Cantebury was in the book, and started a new one, or perhaps he had trouble finding it and preferred not to take time to look it up. After all, he was just keeping a record for his own use, and was not worrying about orderly arrangements, or about lessening the troubles of historians who might go snooping into his business.

Some idea of the scale and detail of his operations can be obtained from samples of his accounts with buyers. I have added together similar items in each of the periods covered, to simplify the lists somewhat; otherwise they are just as he had them.

Between August 24, 1811, and January 6, 1812, sales to Jacob Cantebury are recorded as follows:

30	pr. mirocco miss best	at	$.72
29	pr. women's do	at	.83
189	pr. miss mirocco	at	.73
41	pr. women's mirocco	at	.84
82	pr. women's mirocco	at	.82
172	pr. women's best mirocco	at	.90
296	pr. misses' best mirocco	at	.75
118	pr. women's mirocco	at	.88
120	pr. misses' mirocco	at	.55
278	pr. women's mirocco	at	.66
14	pr. misses' mirocco	at	.29
34	pr. women's rone mirocco	at	.66
67	pr. women's rone skin mirocco	at	.66

These sales add up to a total of 1,470 pairs sold in a period of less than 4½ months. If we allowed 25 working days per month, we would get an average of slightly more than 13 pairs a day! Comparison with Weston's careful record of making one to three pairs a day reveals the extent to which Goodwin employed outside help.

Another account with Cantebury shows an even higher rate of production. Between February 21 and March 25, 1812, Goodwin recorded the following sales to Cantebury:

[4] The last item has no year in the date as Goodwin wrote it, but it is on the same page with a credit account to Cantebury covering the identical days, and dated 1813.

90 pr.	morocco	women's shoes	at	$.88
108 pr.	"	misses' "	at	.45
147 pr.	"	children's "	at	.45
136 pr.	"	women's "	at	.90
36 pr.	"	" "	at	.87
195 pr.	"	" best "	at	.92
9 pr.	women's	heel shoes	at	1.10

Allowing for 27 workdays, of the 32 days in this period, the average production would be about 26 ⅔ pairs a day! The likelihood that some of the shoes were made up beforehand would not affect the significance of this figure, for sales were being made all the time and production would have to be maintained at a fairly constant rate to supply such a demand. Thus it is evident what happened to the more than a ton of leather bought in 1812, leaving us only with the question of why purchases were not larger in other years. If Goodwin operated a central shop, the average rate of production per man would be somewhat higher than Weston's owing to the division of labor among a "Gang" of specialists.

Between January 15 and February 10, 1812, Goodwin sold Cantebury 363 pairs, including:

83 pr.	wo	mirocco shous	at	$.90
88 pr.	miss	" "	at	.75
71 pr.	wo	"	at	.90
118 pr.	childerns		at	.45
3 pr.	woms	fancy "	at	1.41[8]

Between November 20, 1811, and February 1, 1812, Goodwin received from Cantebury $253 in cash, $202.24 in orders on K. & E. Bailey, and $175.69 in goods.

From May 25 to August 28, 1813, Goodwin sold Cantebury 301 pairs at prices ranging from 3 to 6 shillings (50 cents to $1.00), and 4½ yards of linen, at 4/6 (75 cents) per yard. Credited to Cantebury during the same period was 384 pounds of leather, valued at $116.38, $81 cash, $158 in orders on K. & E. Bailey, and three pieces of sheeting and one of linen. Cantebury is debited to the amount of $235.44 and credited with $459.80 for the three-month period.

Another parallel set of accounts covers September 16, 1813, to January 18, 1814. Goodwin sold Cantebury 544 pairs of shoes, valued at $471.24. These included women's morocco shoes at 88, 92,

[8] Entered in the account book as 8/6.

95, and 98 cents a pair, 61 pairs of "Rushan sandals" at 7/6 ($1.25), "childerns" at 2/ (33 cents) and "shoes" at 25 cents. Goodwin credited Cantebury with $306.98, including $150 in cash, $42 in three orders on E. Cook, $4.40 for "goods at Reads," 72 yards of cotton cloth at 2/, worth $24.01, and a pound of tea worth $1.50.

From February 21 to April 25, 1812, Goodwin collected $51 in cash from Cantebury, and 417 pounds (and 4 sides of "so-leather," weight not given) of leather worth $112.48, orders on K. & E. Bailey for $203.08 and some cotton and flour. Total value, $432.17 in two months.

When all the credit accounts to Cantebury are added together they total $1,698.10, in half a dozen accounts. Of this, $490.10 is cash, $227.47 for leather (plus one lot for which no value is given), $662.44 in orders on various people, and $318.09 in miscellaneous goods and balance remaining after the detailed items are deducted from Goodwin's totals. This last may include the value of the unpriced leather.

This summary, however, is far from complete. It undervalues Goodwin's payments to Cantebury for leather. Most of these are not in the neat parallel accounts, but scattered through miscellaneous accounts. Altogether, Goodwin paid $587.34 to Cantebury for leather at various times. Less than half of this is marked down as though it had been paid for in shoes, but there is no sign how the rest was paid for. There is no duplication of dates between the two kinds of record, so it appears that Goodwin had two ways of handling his deals for leather, which would seem in itself to dismiss the possibility that the leather from Cantebury was only material for shoes made for Cantebury.

It is more difficult to summarize the credit accounts of Goodwin's other buyers. There are only seven of these accounts, involving six buyers. They are credited with $213.61 in cash, $80.68 in orders on other people, and $13.97 in goods for which prices are given. This obviously represents only part of this phase of his business, and even that part is incomplete. Goodwin received far more in goods, for many items are listed without prices, or the prices are given in such a way that it is not clear whether they are totals or the price per unit, or even which goods the prices belong to. We know that he did as much business with the other buyers, taken together, as with Cantebury; obviously he received much more in goods than the figure mentioned above. Goodwin must have left it to his creditors' account books to show what he owed them. At one time, he credited Weston

and Temple "by binding" 60 pairs of shoes. There is no date, no price, and no total, though he does list the four kinds of shoes bound. Who did the binding is also uncertain. The store might have been middleman in arranging with someone else to do it, opening a credit account charged against Goodwin as the means of payment. More likely the store had nothing to do with it but merely reported to Goodwin that an order against his credit, covering that amount of work, had been presented to them by the person who did the binding.

Goodwin credited Timothy Symmes, to whom he sold 314 pairs in 1812 and 1813, with $18.50 in cash, and three orders on Robert Eames, totaling $50.50. The unpriced goods received from Symmes included powder, tea, rum, sugar, oats, cups and saucers, cheese, vinegar cruets, a creamer, cigars, candles, gin, shoes, molasses, cloth, boys' shoes, fish, crackers, flax, and a felt hat. Samuel Batts is credited with $69.50 in cash and $10.70 in goods. Among the items credited to Ephraim Weston are cash, "cash at Mr. John Tempel," goods to Mr. Holt, to Aaron Parker, to Jonas Parker, Jr., and to Jona. Temple, two books worth 40 cents, a pair of shoes worth $1.30, a knife worth 16 cents and a blackball[6] worth 16 cents. O. Weston is credited with $1.50 cash and ten days' work.

On December 4, 1802, Goodwin wrote, "Samuel Batts sent his son to live with me." Beneath this he listed "Cr. by Cash," various sums adding up to $23.02, and dated from January 2 to June 12, 1810. Young Batts may have been boarding with Goodwin, or he may have been apprenticed. There is no explanation of the payments of money.

Numerous accounts credit individuals with making or binding shoes. Nine men and three women are so credited, and debited for goods and money. But there are also five men and four women charged with goods but not credited for any work. If we could assume that they must have paid for the goods by shoemaking, these names could be added to the list of his employees. But the credit accounts are not to be found; thus, we would also have to assume that Goodwin accepted their record of work in settling with them, which seems unlikely, though not impossible.

John Mackintier (May 9 to July 10, 1812) is credited with making 78 pairs of "mis shous" at 20 cents a pair, and 13 pairs of "wo merocco shous" at 25 cents. One and a half days' work is listed at $1.00,

[6] A blackball was a ball of wax mixed with lampblack, used by the shoeworker to color a finished shoe.

and "one Witch"[7] at $7.50. On the debit side, Mackintier is charged for "my shues" (25 cents), two quarts of molasses at 30 cents, one pair "stufs" (75 cents), one hat ($6.00), three pints of rum at 18 cents each, 25 cents in cash, six yards of "inja Cotten" at 25 cents a yard, a pair of morocco shoes for 92 cents, and $9.75 "for boarding him." It seems Mackintier lived with Goodwin for the ten weeks or so covered by this record, making shoes, and taking his pay in keep and kind. He must have been an itinerant cobbler, taken on for a rush season, and not a settled shoemaker of Reading.

Five of the men who worked for Goodwin did so in 1811, 1812, and 1813, two in 1827-1828, one in 1823-1824, and one at a time not indicated. The accounts of the five who received goods but are not recorded as working for him fall into the period from 1809 to 1816. Taken with the heavy concentration in the latter period found in his purchases of leather and his sales of shoes, it looks as though these were Goodwin's best years, but a more likely explanation of this phenomenon is that we have a more complete record for those years.

First of the men, in chronological order, is Warren Dammon, who is credited with 248 pairs from June 15 to October 12, 1811. Assuming that the shoes were made within the listed dates, or an equal period of time, and that he worked five days in six (which would, if anything, overestimate days off) his average production would be 2½ pairs a day. He was paid 20, 25, and 28 cents a pair. However, it would be a little rash to estimate his income on the basis of these figures. We do not know when he made the shoes, and, more important, we don't know that Goodwin was his only customer. Work by the day at various jobs is priced by Goodwin at from 58 cents to $1.00. Nowhere is there a clear demonstration of what a shoemaker could make a day at his trade. Dammon's next account shows that he sold 379 pairs between December 14, 1811, and March 23, 1812, an average of 4½ pairs a day. And the third account, from April 25 to May 25, 1812, is for 159 pairs, an average of 5.3 pairs. So we cannot draw any very secure inferences from this method of analysis. The accounts with other men yield generally lower averages, ranging from 1.4 pairs to 3.7 pairs a day, a variation which seems greater than differences of skill would explain. In the face of such results, the effort to establish a figure for daily production must be counted a failure. At best, we

[7] However alluring the temptation to give the common meaning to witch in this case, it probably referred to an attachment to a loom, used for fancy weaving.

can say that a man could produce several pairs—meaning two, three, or four—a day. James Weston's careful record of about two pairs a day twenty-five years before remains the only one that can be proved.

The range of prices paid by Goodwin for shoes which he bought is fairly wide. The lowest price he paid was 15 cents a pair for children's shoes. Of 52 batches listed, 11 were priced at 20 cents a pair, and 12 at 25 cents. The others were distributed as follows: 18 cents, 2; 21 cents, 1; 27 cents, 2; 28 cents, 2; 30 cents, 3; 2 shillings or 33 cents, 3; 34 cents, 1; 35 cents, 2; 37 cents, 2; 37½ cents, 5; 40 cents, 1; 50 cents, 2; 3/6 or 58 cents, 1; 66 cents, 1. "Walking shoes" brought 50 cents and 66 cents. A pair of boots brought $1.33. A few of the top prices—say, above 40 cents—might have covered some leather found by the men, though this is never mentioned, but the rest were clearly paid only for the labor of making the shoes. Comparison of these prices with those paid to Goodwin by his buyers demonstrates the difference. "Heel shoes" generally commanded high price, though "spring heels"[8] were made for only 25 cents. Dancing pumps were 20 cents. No men's or boys' shoes are mentioned. Sometimes "misses" or "womens" shoes are specified, the latter slightly higher in price. "Rone" and "morocco" leather are often mentioned.

Barnebus Richardson sold Goodwin 1,142 pairs between October 12, 1811, and January 5, 1813. These are listed in three accounts, with entries every two or three weeks. The shoes were valued by Goodwin at $279.33. There is one debit account to Richardson, paralleling the last of the three credit accounts. He is charged for one pair of morocco shoes (92 cents), and for goods "to Boston, to Weston and Temple," and "to Milford." There are entries for linen, rum, sugar, tea, and coffee, but, curiously, no prices for anything but the shoes. This looks like a skeleton memo by which to check the account in Richardson's book, with the expectation that that account would be correct.

Three accounts credit Philemon Richardson with 632 pairs between December, 1811, and February, 1813, valued at $206.33. There is no debit account in Philemon's name.

Ezra Sweetser made 94 pairs of women's shoes at 25 cents a pair between September 24 and December 11, 1813. A debit account covering the same period charges him for stuffs, tea, a pair of boy's

[8] A spring heel was made by inserting one or more lifts of leather under the heel end of a sole which covered the entire bottom of the shoe.

shoes, candles, "hors & shase to Lynn," two pairs of soles, "sum mirocco—.16" pork, potash, "factre" cloth, saltpeter, "pladed cotten," fish, cotton yarn, six payments of cash (total, $42.50) and "cash paid Mrs. S., Boston—.75." The total comes to $64.59, so it appears that Sweetser did other work for Goodwin not entered in the book, particularly since so large a proportion of the total is cash.

John Weston, Jr., is credited with 604 pairs at 20 and 25 cents between May 21, 1823, and May 24, 1824—total value, $119.35. Exactly parallel debit accounts add up to the same total, the only case of an exact balance in the entire set of accounts. Weston received $56.01 in cash, pork, eggs, a "spung," "als," stuffs, a book (62 cents), a pair of boots (25 cents), "caring Daniel to Boston" (50 cents one trip, 25 cents the next), a "wescot patten" (33 cents), flour, wine, and "Goods Delivered to Boston—$9.93." It might be instructive to know more about the last transaction, but no details are given.

William Temple was also charged for goods delivered at Boston, to the amount of $18.10, as well as $117.72 in cash, 23¾ pounds of "soulleather" worth $5.93, orders on T. Parker ($21.11), a barrel of flour ($6.00), a pair of gloves (75 cents), a pair of boots ($4.25), and sheeting. In exchange, Temple delivered 530 pairs between October 24, 1827, and October 16, 1828, valued by Goodwin at $144.00, and 323 pairs between November 1, 1828, and April 2, 1829. There is no record of a settlement between the two, though Temple was owed a balance. Perhaps the settlement was recorded in Temple's book.

Jonathan Temple's account (February 23 to December 30, 1828) credited him with 474 pairs (no total given) and debited him with $102 cash and one side of "soaleather."

Considerable cash was changing hands in these local transactions, though payment in goods and orders was still larger. The quantity and variety of goods charged to these people indicate that Goodwin kept a large supply on hand, so that he must have run something like an exclusive little general store for his help. Some cash was also listed against the names of the men for whom only debit accounts were kept, though it was a smaller proportion than in those cited above. Oliver Damon was not given any cash at all. He was charged (December 20, 1809, to March 5, 1810) for tea, sugar, rum, molasses, one side of upper leather ($2.67), a pair of morocco vamps (40 cents), sheeting, and 13½ pounds of "solather." Again (October 17 to December 23, 1811) he was charged for cheese, tea, "one pr merocco wo shos" ($1.00), flannel, "inja" cotton, and flour. On March 26, 1812,

Goodwin "setteled with Mr. Oliver Damon and find Due to him one Dollar and 18/100 the hol is paid." The balance may have been paid in cash. Timothy Bancroft got 25 cents cash, but the rest of his account is for cloth, "westcot patton, cot buttons," twist, and a pocketbook. Four accounts with Aaron Parker mention various kinds of goods, but no cash. A fifth account lists ten dates between 1828 and 1834, on each of which Parker bought a pair of shoes, at prices ranging from 75 cents to $1.25. Amos Parker bought morocco shoes for $1.00 and leather shoes for 92 cents in 1813, and, in 1816, a pair of sandals for $1.25, leather shoes for 75 cents, and "shoes" for 75 cents, 84 cents and $1.00. A gallon of rum ("Delivered W & T"—probably Weston and Temple) cost him $1.00, and five pounds of cotton yarn $3.78.

Betse Wile bound 420 pairs of misses' shoes for Goodwin at 4 cents a pair, 18 misses' slippers (no price) and 185 pairs of women's shoes at 5 cents. This list is not dated, but on November 28, 1811, she is credited with 2 pairs of stuffs at 75 cents and 84 cents and cash to the amount of $15.00. It may be that she took her pay in goods drawn against Goodwin's account at a local store, and the $15.00 was to balance an overdraft. The account was "seteled" on that date, so she probably had to pay up for her overoptimism in buying more than she earned.

Lucinda Baley competed with the men at their own work. She didn't merely bind shoes; she made them and was paid the same prices as the men. From September 23 to February 4 [no year given] she made 115 pairs, about a pair a day. She was paid $3.00 in cash, $11 in orders on T. Parker, and the balance in hogsfat, flour, eggs, cloth, and a pair of shoes.

Lydda Batts is credited with two accounts for binding shoes. Between October 17 and November 26, 1811, she bound 61 pairs of women's shoes at 5 cents, 18 pairs of misses' at 4½ cents, 24 pairs of the same at 3½ cents, and 6 pairs of slippers at 4 cents, a total of 109 pairs for $4.94. Lydda was charged 50 cents "for cairing hur to Boston," 67 cents for "my hors to Lynn," $1.37 for 5½ yards of "inja Cotten," 46 cents for one-half yard of linen, 92 cents for a pair of "kidshous," the same for a pair of morocco shoes, $1.33 for a pair of stockings, $2.00 for five yards of "factre Cotten," $1.33 for a pair of walking shoes. She ran up a bill of $44.30 from November, 1811, to November, 1812. All her debit accounts begin and end with a balance owing to Goodwin, making it appear that she was not earning enough

at his work to keep out of debt, not a surprising conclusion, in view of the fact that she was binding, on the average, only three pairs a day.

Several other accounts with women are recorded. Emily Fearington, or Farington, got cloth, logwood, shoes, a comb, thread, cash, and wine from Goodwin. June 25, 1810, he agreed to give her 50 cents a week, but failed to say why. Her name also appears in Lydda Batts' account when Lydda is debited for 50 cents Goodwin "payed to E farington." Sally Temple's account does not indicate whether she was debtor or creditor. Nine dollars changed hands on September 26. Neither the year, nor any other information appears on the book. Nancy Foster, during 1811 and 1812, received $6.42 in cash in three payments, $4.96 "to goods at Boston," one "amburrill" [umbrella] for $1.50, one pair of morocco shoes for 75 cents, and "one pair of shoes at Mr. Parsons" for the same price. Mary Coggin's account, not marked either creditor or debtor, covered $14 cash in three payments, four pairs of shoes at 92 cents, $1.00, and $1.12, and a pair of stuffs at 62 cents. This does not even give grounds for guessing who owed whom what and for what reason.

Evidently, Goodwin was carrying on a complex business operation. He not only made shoes himself, including a few which appear to have been custom-made, but he had people working for him. There is no evidence that he operated a central shop, with its division of labor. Even though Levi Mackintier and Samuel Batts' son lived with him, the others had their own homes in Reading and probably took their work home. Goodwin packed the shoes and sold them to various buyers, and he may have done some of the finishing on them. The number of buyers he dealt with, and his record of buying leather and other supplies in quantity indicate that he was not working for somebody else, but was an independent producer and middleman. He sold leather, thread, and shoemaking tools to some of the people who worked for him, but the strong evidence that he "found" the materials is in the prices he paid. Conversely, the higher prices he got from Cantebury and the other buyers indicate that they did not "find" for him.

He must be classified as somewhat of a maverick. His business in Reading was not highly enough organized to earn him the title of central shop operator. He was a shoemaker, with more than the average share of initiative, who undertook to handle the marketing of other people's production, and who knew how to make a profit out of that,

in addition to what he could earn by his own skill at his trade. He organized, and to some extent supervised, the production of his workmen. We know he supplied them with leather; it would follow that he specified what kinds and qualities of shoes were to be made from the leather. This control would not have gone beyond inspection of the finished product, however, though he might also have set time limits for delivery. In a central shop operation, his means of control over his workmen would have been more effective. It is regrettable that his later career cannot be followed, to see whether he turned to organizing a central shop, as a solution to the problems of control and of elimination of waste.[9] He may later have given up shoemaking, to devote full time to handling other men's production, in which case he would develop into a full-fledged capitalist. He was already half way to that status, and, with the wide choice of buyers open to him, no doubt he did a very profitable business.

John Johnson's accounts present fewer complications and problems than Goodwin's. He did custom work and cobbling, and made shoes in quantity for Weston and Temple and some other buyers. He also spun "filling" (woof) thread in quantity and sold it, and may have done some weaving on the side. He frequently worked out by the day at farm jobs, or on the roads, receiving from 58 cents to $1.25 a day. His boy worked out, too, at 58 cents a day. In his shoemaking the prices he received indicate that he was working for someone else, with his materials found for him.

Of the 5,485 pairs, the sale of which is recorded in his book, 4,521 were sold to Weston and Temple. He bound 732 pairs for Weston and Temple and 280 pairs for Silas Smith. His sales to Weston and Temple fell between January, 1812, and May, 1822. He sold 668 pairs to Smith between September, 1813, and December, 1818. From January to March, 1823, he sold 56 pairs to Timothy Stevens, and from March to September of the same year, 240 pairs to Ebenezer Stevens, both of Salem. These four were his only customers for shoes in quantity.

The range of prices he received is very like those Goodwin paid. He got 15 cents for 4 batches, 16 cents for 2, 17 cents for 3, 18 cents for 4, 20 cents for 3, 21 cents for 1, 25 cents for 5, 26 cents for 1, 27 cents for 2, 28 cents for 5, 29 cents for 3, 30 cents for 3, 33 cents for 1,

[9] For fuller discussion of the development of the central shop, see Hazard, *op. cit.*, Chaps. iii and iv, *passim*.

34 cents for 1, 37½ cents for 1, 46 cents for 1, 50 cents for 2, and 67 cents for 1. He made both men's and women's shoes, but mostly the latter.

The sale of about 80 pairs of custom shoes is listed—for men, women, boys, girls, and children. The prices vary widely, one reason being that he found part or all of the leather for most of his custom work. He charged from 30 cents to $1.33 for women's shoes. For men's, his prices ranged from 42 cents to $1.50, and boys', girls' and children's shoes brought him from 25 cents to $1.12. In his custom work, he occasionally mentioned sizes. The first example is in December, 1815: a pair of boy's shoes, size 4. Other sizes mentioned include: boy's size 2½, girl's sizes 1, 2, 10, and 13, miss's size 1, woman's size 3, and man's size 4. Of the nine mentions of size, six occur in the fragmentary accounts of 1827-1832. Use of standard sizes by shoemakers was a recent development. Fitting was ordinarily done by tracing the feet to be shod. Johnson still seems to have been doing this for most of his customers. The reason for mentioning sizes is not clear; he may only have been doing it to aid in fixing a price. But when the sizing is carried to the point of including half sizes, it becomes significant. Shoes were not commonly manufactured in half sizes until the 1880's.[10]

Custom work and cobbling were sidelines to Johnson's production in quantity for wholesalers. He had not, like Goodwin, managed to combine shoemaking with jobbing, or with letting out work. As is indicated above, he probably got his leather and materials from his buyers. There is no record in his book of the payments to him, either in cash or in kind. This is probably indicative of his more dependent relationship with his buyers. He sold to only one buyer at a time, with the exception of a short period between September, 1813, and April, 1814, when he made sales to both Weston and Temple and Silas Smith. Three of his accounts with Smith are dated in periods when he was not doing business with Weston and Temple, but after each break he returned to trading with the storekeepers. His sales to the Stevenses are the only ones recorded in 1823. And, in 1818, there is only the record of 9 pairs sold to Smith in October, and 12 pairs to Weston and Temple in November. Evidently, he was faithful to one

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[10] *The Story of Lasts* (New York: National Shoe Manufacturers' Association, 1948), p. 3.

customer at a time; he may even have worked under exclusive agreements. Johnson was no budding capitalist. He was a shoemaker, pure and simple, whose sidelines were only other forms of labor, not the hazards of entrepreneurship.

These three men neatly symbolize three levels of development of an important industry, happily juxtaposed in a single town. Weston, earliest in time and in development of his business, was a farmer with a bad-weather spare-time trade. Whether his farming or his shoemaking was the more profitable occupation cannot be determined, but it is clear that the demands of the farm came first, if only because the shoes could wait and the farm could not. Johnson, second in terms of development, though exactly contemporaneous with Goodwin, was a shoemaker who also did farm work, general labor, and some spinning. He was an employee, whose income was entirely the product of skill at the bench. Goodwin had moved beyond that stage to securing profit from marketing other people's work. He could have been Johnson's employer, though the relationship would have been more on a basis of equality than if Goodwin's business had been more highly organized. The self-employed, or rather self-regulated, craftsman was enjoying the last days of his independence. Eventually the Goodwins and Johnsons would be divided into the capitalists and workers, employers and employees, as the little differences between men grew to greater ones, and the small deviation from older practice, made by those with a little extra gumption, capital, or good luck, led to reorganization of the entire scheme of production. In the work and life of such men as these, we can distinguish the elements of our industrial civilization.

JOHN PHILIP HALL
Lynn, Massachusetts

The Early Business History of Four Massachusetts Railroads—III

V. Development of Railway Officialdom

The early railroads in Massachusetts employed two groups of full-time officials: the civil engineer and the agent who supervised the construction of the road, and the superintendent and other officials who supervised the operation of the trains and depots. In this section we shall trace the early evolution of the latter group together with the development of the president and the treasurer.

1. *The First Operating Superintendents*

Since the Boston & Worcester was the first railroad to operate in New England, it led the way in setting up the organization of officers and other employees who performed the transportation services. Nathan Hale was the most important official when the road was opened for traffic from Boston to Newton on April 16, 1834. Although only a part-time official, he was president, superintendent of construction, and a member of several committees of the directors, as well as the chairman of the committee on depots that recommended the measures to put the road into operation. The board discussed the report of the depot committee at great length but the only action taken at first was to specify that all employees of the corporation must wholly abstain from the use of intoxicating beverages. The temporary solution of the other problems was referred to Hale's depot committee, although the directors continued to discuss operational, safety, and organizational problems.[49]

Meanwhile, Hale and his committee hired Moses Barnard as "master of the cars"; they also hired a ticket clerk and a few other men. The trains operated for nearly a month before the board settled upon

[49] Directors' Minutes of the Boston & Worcester Rail Road, March 15, April 12, 1834. The records of the Boston & Lowell, Eastern, and Andover & Wilmington railroads are deposited at the headquarters of the Boston & Maine Rail Road in Boston. The records of the Western and of the Boston & Worcester are deposited in Baker Library, Harvard University.

Arthur Stuart "to have general superintendence of the depot, of the running of the cars, of the road and the repairs thereof as far as the cars shall run."[50] Actually, Stuart was never a general superintendent but only a master of transportation, as division superintendents were then called, receiving a salary of $800 in keeping with the smaller position. Stuart's duties were outlined by the road's civil engineer, John Fessenden, and formally adopted by the directors.

Hale continued as superintendent until December, 1834, dividing his time between the construction of the first track, the purchase of locomotives and cars, and the supervision of Stuart and the other operating employees. Other board members made arrangements with stage proprietors for connecting services, and studied the problem of fares and rates. Meanwhile, the directors looked for a full-time superintendent to supervise the operation of the road. The first track was nearly completed and Hale had served as a part-time superintendent only because no one else could be found satisfactory to the board. He could not give his complete attention to railroading because of his occupation as a publisher and editor.

In December, 1834, the Boston & Worcester directors employed James F. Curtis as a full-time superintendent at $3,000 a year, and voted that under the direction of the board he should have the general management and control of the affairs of the corporation. He had the power to dismiss and hire employees subject to the approbation of the board, except that he could not hire or fire men in the civil engineer's department.[51] The size of that department, of course, was dwindling as the road was being completed. The directors gave Superintendent Curtis several instructions, the most important of which was to prepare a careful estimate of costs of completing the construction of the track and buildings and the purchase of "all other things needful for the most profitable use" of the railroad for the ensuing year. Curtis soon complied with a detailed report, including the organization of the handling of merchandise, methods of accounting for all expenses and receipts, arrangements for passenger service, the problems of safety, and the division of duties of the employees. The directors were pleased with the report but hesitated to delegate much authority to Curtis. They not only instructed him to prepare a report for each weekly meeting of the board but also appointed numerous committees

[50] *Ibid.*, May 10, 1834.
[51] *Ibid.*, December 2, 1834.

of the directors to maintain inside control of the daily operation of the new railroad.

The Boston & Lowell Rail Road is interesting because it differed from its contemporaries in many details. For one thing, the Lowell road did not open for business until the entire track was ready between the two terminals. The distance was only twenty-six miles and there were no important intermediate villages. Patrick Tracy Jackson concentrated on completing the first track and commencing the second. As the summer of 1835 approached, the only official activity of the board of directors in opening the road was to set the price of passenger fares; Jackson, as agent, made all the other arrangements. He employed two construction "subengineers," George M. Dexter, to be in charge of transportation, and John Higgins, to be his assistant. A few months later, when Jackson resigned as agent after the major construction had been completed, he recommended that James F. Baldwin, the road's civil engineer, be appointed "general agent and superintendent." The board agreed and Baldwin proceeded to oversee both the construction of the second track and the operation of the road.[52]

On the Eastern Rail Road Stephen A. Chase, the chairman of the executive committee, took the initiative in making plans for operating the first section of the road. It was appropriate for Chase to take the lead; he was the paid official who, with the two nonsalaried members of the executive committee, not only exercised the authority commonly vested in superintendents or agents in the construction phase of a railroad, but also ordered locomotives and cars. As the track was nearing completion between Boston and Salem, Chase and his committee recommended that the board make arrangements for the appointment of operating officials and workmen. At the same time, the committee submitted proposals for rates and operating schedules. The directors promptly adopted the train schedules but directed the executive committee to arrange for "taking up and delivering passengers" at the several depots. A week later, at the request of the executive committee, the board voted that Chase should assume the duties usually conferred upon operating superintendents in addition to his chairmanship, and that he should be assisted by one Latham Burrill (?) as an inspector. Chase continued with his former low

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[52] Directors' Minutes of Boston & Lowell Rail Road, June 2, October 13, 1835.

salary of $1,500 and the inspector received $800 annually. At the same meeting the board adopted the proposed passenger-fare tariff and confirmed the nominations of eighteen employees, apparently proposed by Chase. It is obvious that Stephen Chase did considerable preliminary planning and already had selected the first operating personnel when the directors took up the question.[53] The road was opened for business between Boston and Salem on August 28, 1838.

The Western Rail Road was the last road in this study to open a portion of its line for business. In preparation for the occasion, the board directed a committee, consisting of President Wales, Agent Bliss, the chief engineer, and the resident engineer, to "employ such superintendents and other officers and men" needed to operate the road between Worcester and Springfield, and also to present a plan for organization.[54]

Within a few weeks the committee reported, listing the officials and stating to whom each should be accountable. The board immediately adopted the proposal.[55] The resident (or full-time head) engineer was the general superintendent, ex officio. The road between Worcester and Springfield was divided into two operating divisions, with a master of transportation over each division. The master of transportation at Springfield also was responsible for the repair shop, which was managed by a master mechanic. A road master was in charge of the repairs of the road and buildings for the entire line. The way-station agents had charge of local business under the appropriate master of transportation. The train conductors were subject to the direction of the master of transportation within their respective divisions, but the enginemen (locomotive engineers) were under the master mechanic. Clerks and laborers also were specified.

Captain William H. Swift, the resident engineer, resigned as of July 5, 1839, because of Congressional action requiring Army engineers to give their full time to the Army. Swift's duties, including the new duties as operating superintendent, were transferred jointly to the chief (or nonresident) engineers, William G. McNeill and George W. Whistler.[56] Neither McNeill nor Whistler appeared interested in

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[53] Directors' Minutes of Eastern Rail Road, July 18, 23, 1838.

[54] Directors' Minutes of Western Rail Road, April 4, 1839.

[55] Document No. 21, June 21, 1839, in clerk's file of Western Rail Road.

[56] Directors' Minutes of Western Rail Road, June 12, 1839.

residing in the vicinity of the road or giving full time to the railroad until action by the board resulted in Whistler's moving to Springfield where he served as resident engineer and general superintendent until 1842. Meanwhile, just before the road opened in October, 1839, the directors appointed Agent George Bliss as a committee of one to confer with the engineer "on all subjects that may arise in relation to the use of the road . . . and that they be authorized to act in any emergency and report their doings to the directors at the succeeding meeting."[57]

2. *Development of the Superintendents' Responsibilities*

Within less than a decade after the first trains were operating in New England, the superintendent or general agent in charge of operations, rather than the president, emerged as the chief full-time executive. As far as I can tell this development was not influenced to any significant extent by the railroad practices in the other parts of America or in England. The trade journals and books on railroading at that time emphasize the technical problems and often quote the annual reports, but business administration is not treated as a subject by itself. There is evidence, however, that the five roads running out of Boston and also the Western Rail Road traded ideas in both technology and business administration. Nevertheless, each road developed its organization primarily on the basis of the personal ideas of the directors. A comparison of the early development of the superintendents of operations is enlightening in this respect.

When James Curtis became superintendent on the Boston & Worcester in December, 1834, John Fessenden was still employed as the head civil engineer, concentrating on the construction of the road, and William Jackson continued as assistant superintendent, spending most of his time with land claims. Although the first track was opened the entire length by July, 1835, it was another year before the directors terminated the positions of engineer and assistant superintendent. At first the Boston terminal was at the Washington Street station, pending the completion of the South Cove tracks and buildings. Fessenden was primarily concerned with the supervision of the South Cove depot area and a few turnouts along the main line during the winter of 1835-36. Curtis, meanwhile, not only supervised the operation of the trains,

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[57] *Ibid.*, September 27, 1839.

the depot personnel, and the laborers who tended the track, but he also made proposals concerning rates, investigated complaints of shippers, and looked after the construction of some of the way-station buildings. Also, the board directed him to prepare various reports from time to time on the cost of fuel, payroll costs, duties of employees, and the receipts and expenses of handling merchandise.

A reorganization of the top officials of the Boston & Worcester occurred in July, 1836. Fessenden moved to the new Eastern Rail Road and his position as engineer on the Boston & Worcester was abolished. Likewise, William Jackson's job as assistant superintendent specializing in land claims was discontinued. Curtis remained as superintendent and, of course, Hale continued as a part-time president. Apparently the directors did not consider the superintendent to be the chief full-time executive. William Jackson, recently elected as a director, was designated by the board as general agent of the corporation to "take charge of the Rail Road and its concerns" at an annual salary of $3,500, which was $500 more than Curtis was receiving.[58] This did not mean that Curtis was directly accountable to Jackson. It seems that Jackson concerned himself largely with the laying of new turnouts, second track, and the branch between Worcester and Millbury, together with real estate problems. For the next three years, Curtis did his work day by day, furnishing detailed reports to the directors for their weekly meetings on such items as receipts, accidents, dismissals of salaried employees, nominations of new salaried employees, and the rent he collected for the several properties owned by the railroad. Committees of the directors kept close watch over his work.[59]

When Curtis was accidentally killed in April, 1839, President Hale became acting superintendent for a few months until the board chose William Parker as the next superintendent. He had for a time been an assistant civil engineer on the Boston & Worcester and since then had had several good offers from other railroads. As Jackson's work as agent in building the second track tapered off in 1840 and his remuneration was put on a fee basis, Parker acquired added duties of investigating the purchase of new locomotives and laying more second

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[58] Directors' Minutes of Boston & Worcester Rail Road, July 12, 1836.

[59] *Ibid.*, September 4, 1838.

track, and in effect he became the top full-time manager on the Boston & Worcester Rail Road.[60]

On the Lowell road the full-time manager was called the agent. Patrick Tracy Jackson held that title when he supervised the location and construction of the road, and his successor, James F. Baldwin, used the same title. Baldwin, an engineer by profession, supervised both transportation and the construction of the second track during the twelve months following October, 1835, at which time he was succeeded by Charles Storrow, who had been one of the subengineers in constructing the first track. For nearly ten years Storrow was the agent of transportation (but sometimes called superintendent). Although his duties were never strictly defined, he considered himself bound to do whatever was required in the management of the affairs of the corporation wherever no other officer was specifically appointed for that purpose. Since the treasurer was the only other salaried officer and he served only on a part-time basis, Storrow accepted a much larger share of work and more responsibilities than was common on railroads with a different organization. Storrow's salary was increased to $4,000, although, when he resigned in 1845, his successor commenced at $2,000.[61]

On the Eastern Rail Road, as mentioned above, Stephen A. Chase held the dual positions of chairman of the executive committee in charge of construction, and superintendent of operations. His salary was increased to $2,000, and in October, 1840, to $2,500. At that date the Eastern opened the New Hampshire section for traffic, offering service between Boston and Portsmouth. At first, Chase was assisted by an inspector, an $800-a-year man, apparently checking on the operation of the trains and the depot personnel. The records do not reveal how long this position was continued, but probably not beyond the first year.[62] Meanwhile, Chase, sometimes with the aid of the executive committee, made arrangements for the transportation of freight (contracting it out, as will be explained below), passenger services and fares, and the purchase of locomotives and rolling stock; he even made recommendations on the dividend payments and financing of the road. And yet, the day-by-day supervision of the personnel

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[60] *Ibid.*, August 3, 1840.

[61] Directors' Minutes of Boston & Lowell Rail Road, October 12, 1841, April 12, 1845.

[62] Directors' Minutes of Eastern Rail Road, July 23, 1838, May 16, 1839.

undoubtedly occupied much of his time. Still another task, the supervision of unfinished contracts, was assigned to Chase in 1841 when the executive committee was dissolved.[63]

At the same time, an incident occurred which reveals the concern of the directors for effective management of the Eastern Rail Road. Chase was elected a director of the Portsmouth, Saco, & Portland Rail Road, which connected with the Eastern. The Eastern directors immediately and unanimously voted that Chase's work as a director and the superintendent for their road was too demanding on his time to permit him to hold any office under any other railroad. By the next meeting, however, Chase must have discussed the subject with the other directors. The situation was that both the Boston & Maine (originally the Andover & Wilmington) and the Eastern connected with the Portsmouth, Saco, & Portland, and within the next decade the rivalry of the B & M and the Eastern became quite keen over the control of the P, S, & P. No doubt, Chase foresaw future events and convinced the Eastern directors to change their minds. In any case, at the very next meeting the Eastern board reversed its former decision. The board declared that not only should Chase continue his position as superintendent of both the Eastern of Massachusetts and the Eastern of New Hampshire (the latter being leased and operated by the former), but also that the interests of the Eastern required that Chase be permitted to continue as director of the Portsmouth, Saco, & Portland.[64]

In September, 1841, the Eastern directors made a number of important changes in the responsibilities of the officials. From the beginning, Chase had been collecting the receipts of the railroad, paying out the operating expenses and depositing the remainder, called the "net income," in one or more banks. The treasurer used the net income to pay the dividends. A committee of directors studied the system carefully and compared it with other Massachusetts railroads. There was no fraud on the Eastern but the committee recommended more frequent and stricter accountability. A few months later, when the board reconsidered the responsibilities of all officials, they relieved the superintendent of financial matters. They declared "that he should be charged with all the arrangements of transportation, both of

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[63] *Ibid.*, March 5, 1841.

[64] *Ibid.*, February 5, 18, 1841.

passengers and merchandise, and with the care of the road, station house, depots, cars and locomotives and be responsible for their order and preservation, and should be expected to pass his time principally upon the road. . . . "[65]

The Western Rail Road, it will be recalled, followed a different practice in the organization of its management. Major Whistler, the head full-time civil engineer, was made ex-officio superintendent. While it is obvious that the day-by-day operations were supervised by the masters of transportation and the master mechanic, the records do not reveal exactly what Major Whistler did in his ex-officio capacity. The directors gave him instructions, but usually those instructions pertained to contracts for cars, proposed train schedules, and rates, and were assigned to both the agent and the engineer. It meant that George Bliss together with Whistler made most of the reports and important decisions. It is true that Whistler had much to do with the supervision of the construction, but Bliss was dynamic and energetic and undoubtedly was largely responsible for sharing some of the duties that normally would have gone to the superintendent. Furthermore, the board exercised its control through a standing committee "on moving power and running of the road" composed of the engineer, agent, and three board members. This committee usually purchased locomotives and considered general problems.[66]

Major Whistler resigned in June, 1842, to accept a railroad construction job in Russia. The board voted that the president should assume the duties of the engineer and superintendent. Only a few months earlier, George Bliss had been elected president, retaining the powers of agent. (Since the road was completed, much of the former agent's duties had disappeared.) Bliss soon protested that his health would not permit such a load and thereupon the board selected James Barnes, the master of transportation at Springfield, as "engineer." Bliss immediately delegated some of his duties to Barnes, who, for all practical purposes, became the superintendent. Although he was officially known as the engineer, his duties were unlike those of a civil engineer constructing a road, and, furthermore, the directors paid him only $2,000 instead of the high salary of a professional construction engineer.[67]

[65] *Ibid.*, January 22, March 27, September 16, 1841.

[66] Directors' Minutes of Western Rail Road, March 23, 1841. From May, 1840, to March, 1841, it was called the executive committee.

[67] *Ibid.*, March 14, 1842; September 29, 1842; March 28, 1844.

3. *The Employees in the Superintendent's Department*

In the general superintendent's department there were five groups of employees—the train crews, the station personnel, the machinists and helpers, the road maintenance crews, and the clerks in the superintendent's office. The train conductors, called masters of the cars, were in charge of the "cars" but on the Western, at least, the engineman (locomotive engineer) was subject to the authority of the head machinist who was responsible for the frequent repairs and improvements.

In the beginning, it was a common practice for conductors and sometimes other members of the train crew to carry letters and packages for a fee and thus add to their income. The railroads did not yet provide an express service or contract small package service to interested parties, probably because the business appeared too small. Soon after the Eastern began operating in the summer of 1838, however, the directors referred to the executive committee the question of allowing these "perquisites." The committee permitted the practice to continue for two years until the road was opened to Newburyport. The directors of the Eastern then voted a small increase in the conductors' salaries and prohibited them from doing any business of carrying letters and packages except for the railroad. At the same time the directors arranged to contract the express business.[68] This development will be discussed further in the next section. Meanwhile, the directors of the Boston & Worcester had the same problem and directed their superintendent to consider the "expediency" of instructing conductors not to carry property, letters, and money for hire. Again, this action was taken at the time the board decided to advertise for someone to contract to perform a small package express service.[69]

The conductors and ticket sellers also received special attention from the directors in regard to the sale and collection of tickets. As mentioned above in connection with the superintendents, each board was soon aware of the need to secure a better system of accountability. In 1839 the B & W directors adopted a recommendation of Superintendent Parker to employ a ticket collector to accompany each passenger train conductor. The ticket collector also was assigned the

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[68] Directors' Minutes of the Eastern Rail Road, October 12, 1838; June 15, 1840.

[69] Directors' Minutes of Boston & Worcester Rail Road, August 7, 1839.

task of looking after the baggage, apparently taking over the work of the baggage masters, although the existing records are not clear on that point.[70]

On the Eastern Rail Road the conductors collected both tickets and money and deposited them at the main office in Salem once each trip. At the same time, the ticket masters were subject to a system of checks which the directors were assured would prevent all frauds except those resulting from combination with other officers. When the executive committee of the Eastern board was abolished in 1841, one of the special committees continued to study "the different systems of keeping books and accounts of the company so as to secure a general system of accountability."[71] William Sturgis, the chairman of this committee, was well qualified for the assignment. Formerly, when a director of the Boston & Worcester, he had served on a similar committee. By profession he was a mercantile capitalist of wide experience in the Far East and an outstanding businessman in Boston. Sturgis' committee on the Eastern found too much informality in the accountability of officials. For example, a ticket seller at Lynn used the cash received from the sale of tickets to reimburse himself for the contract work he had done in building the railroad. No fraud was evident but the system was unwise. Upon this revelation, the directors ordered all ticket masters to pay all monies received to the superintendent whenever the superintendent should direct.[72]

Sturgis' committee continued the investigation and even studied the practices of neighboring railroads. As a result, his committee recommended more frequent and stricter accountability of the ticket sellers to the superintendent, and periodical adjustments of the superintendent's accounts with the treasurer's accounts, an improvement adopted earlier on the Boston & Worcester. A few months later, in September, 1841, when the superintendent of the Eastern was relieved of his major financial duties, the conductors were instructed to turn over the cash daily to the ticket clerk in Salem. The ticket clerk was in the superintendent's office but he was directed to make daily deposits to the credit of the treasurer. This did not take care of checking the conductors, however. In the following year the Eastern directors met that problem by instructing the baggage master on each train

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[70] *Ibid.*, January 23, September 16, 1839.
[71] Directors' Minutes of Eastern Rail Road, February 5, 1841.
[72] *Ibid.*, February 18, 1841.

to precede the conductor and sell tickets to persons not properly supplied. The conductor merely collected the tickets.[73]

The other members of the train crews did not bring about any specific problems except that occasionally the directors tried to impress all employees that they should be courteous to the public. The fireman received a small salary, about one-half of an engineman's (locomotive engineer's) salary, and undoubtedly hoped to become a locomotive engineer himself. The brakemen, at first called carsmen, were employed at the rate of one man for each two cars in a train. Their duty was to apply the hand brakes, keep cars n condition, take care of the stoves, and help to load and unload the baggage.

A station agent or master was in immediate charge of each station, although at the terminals different agents usually looked after the passenger and freight business. It was common for the earlier roads to designate the passenger agent of a terminal or division point as the master of transportation although his duties were somewhat similar to a modern division superintendent. The other employees at a station were ticket clerks and helpers.

The clerk in the superintendent's office held one of the oldest positions on the railroad dating from the beginning of the road when he served as clerk to the agent (or superintendent of construction) and to the civil engineer unless the road was large enough for two clerks. When a road began to operate trains, naturally the clerk gave more of his attention to the records and correspondence concerning operations or transportation. The clerk in the superintendent's office was a full-time employee and is not to be confused with the clerk of the corporation who was a part-time official.

Each railroad had a machine shop to make frequent repairs of the locomotive engines and sometimes to build cars as well. The head machinist usually received a salary greater than a conductor's but less than that of a master of transportation.

The picture is not very clear in respect to the early road maintenance crews. Apparently the contractors who laid the track sometimes contracted to look after the upkeep of the tracks and roadbed. On the B & W, at least, contractors were used to remove snow during

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[73] Directors' Minutes of the Boston & Worcester Rail Road, December 12, 1836; Directors' Minutes of the Eastern Rail Road, March 27, September 16, 1841; April 4, June 4, 1842.

the earlier years.[74] All roads hired temporary laborers for maintenance work. An official, called the road master, with a salary comparable to the chief machinist or even the master of transportation, was not added until the early roads had operated for several years.

4. *Treasurers, Legal Counsels, and Clerks of the Corporations*

The directors of each road were required by the act of incorporation to elect a president, a treasurer, and a clerk and such other officials as needed. The clerk of the corporation, usually a lawyer by profession, recorded the minutes of the board meetings and occasionally served on committees when the subject required legal opinion. When he represented the corporation as an attorney, he usually received extra pay on a fee basis. Benjamin R. Nichols of the Boston & Lowell, W. H. Foster of the Eastern, and Elias G. Loring of the Western were not members of the board of directors. George Morey on the Boston & Worcester became a director while serving his sixth year as clerk. Some corporation clerks also were elected treasurers including Morey on the Boston & Worcester, John F. Loring on the Boston & Providence, and Flint on the Andover & Wilmington. Salaries for clerks of the corporation were small, usually between $300 to $500. Men holding the two positions of clerk and treasurer received more, but the combination of the two jobs did not take one's full time.

These early railroads did not retain certain law firms as their legal counsel; lawyers were hired as the need arose. Of course, some of the clerks served as solicitors, and Agent George Bliss on the Western, also a lawyer, performed legal services in connection with his work on real estate purchases and claims.

The railroads differed in what they expected from the treasurer. The Lowell and the Eastern did not pay any salary to the president and consequently required the treasurer to perform extra executive duties. When Patrick Tracy Jackson dropped the positions of president and agent and remained only the treasurer of the Boston & Lowell, he then received $1,000 a year for work that required only a small portion of his time. Benjamin T. Reed, the treasurer for the

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[74] Broadside advertising for bids to remove snow, filed in the railroad tariff collection, Baker Library, Harvard University. The Boston & Worcester directors had its employees construct snowplows in 1835 and 1836. (Directors' Minutes of Boston & Worcester Rail Road, February 13, 1835; January 25, 1836).

Eastern, received $1,600 a year besides a commission for ordering iron.[75] The treasurers on the other roads had no executive duties, merely recording the receipts and expenditures and collecting assessments from the stockholders. Josiah Quincy, Jr., received $2,000 and later $2,500 a year for this work, but that included his clerk's salaries which took one-half or more of the sum. The Western had a tremendous number of shareholders compared to the other roads and its mileage was much greater, making more book work for the treasurer and his clerk.

The first road in this study to hire a full-time treasurer was the Boston & Worcester. In June, 1837, Morey resigned as treasurer, retaining his positions as clerk and director. Horace Williams, the head clerk and bookkeeper in the superintendent's office, was elected treasurer and his salary was raised from $1,000 to $1,200. His duties were increased to include the work of the transfer clerk (transfer of stock certificates) and the auditing of all bills agreed to by the superintendent, heretofore tended to by the directors.[76]

5. *The Presidents*

The railroad president of the 1830's was not a full-time executive officer. The charters required the directors to elect one of their number as president of the board and of the corporation. A more appropriate title would have been chairman of the board because the executive duties were few. On the Boston & Lowell and the Eastern railroads, the president received no salary, the treasurer performing some of the duties the president might have had otherwise. Most of the larger railroads in the United States at that time, however, were paying a small salary for part-time work. On the Western, President Wales received $1,000 annually until 1839 when the amount was doubled because of increased duties. President Hale of the Boston & Worcester received $2,000 annually most of the time, except when performing the extra duties of a superintendent. At all times, however, it appears that Hale did more work, week by week, than any of the other presidents of the Massachusetts railroads prior to September, 1841.

In the fall of 1841, the president of the Eastern Rail Road acquired more duties. A general reorganization resulted in President Peabody's

[75] See *Bulletin of The Business Historical Society*, vol. xxv, no. 2 (June, 1951), p. 97, for the method used to order iron rails and chairs.

[76] Directors' Minutes of Boston & Worcester Rail Road, June 20, 1837.

having the general supervision of the business and property of the company. He made all purchases and approved all expenditures and was specifically instructed to make frequent inspections of the road and shops and report to the board.[77] When Superintendent Chase resigned in April, 1842, his successor John Kinsman did not report directly to the board as Chase had done. Instead, the president made all reports and received all instructions from the directors. Not until 1855, however, did the Eastern president become a full-time executive.

There is no indication that anyone on the early Massachusetts' railroads thought the president should be a full-time executive until Bliss was elected president of the Western in 1842 and the directors combined the positions of agent and president. A few months later, Major Whistler resigned as engineer and superintendent. In September, 1842, when James Barnes took over Whistler's position, it was at a salary of $2,000 which later was increased to $2,500. Meanwhile, President Bliss received less salary than the superintendent, although Bliss devoted his full time to the job. The salary was raised from $3.00 a day to $2,000 a year in 1845, with an extra $500 added at the end of the year in recognition of Bliss' work. Not until Addison Gilmore was elected as Bliss' successor in February, 1846, did the directors of the Western raise the salary of the president above that of the superintendent. Gilmore was voted $5,000, twice the salary of Superintendent Barnes, because, as the board explained, Gilmore had resigned a $5,000-a-year job to accept the presidency of the Western and the directors were forced to make the increase to get a good successor for Bliss.[78]

The duties of President Bliss are worth quoting because they show how little the directors were willing to pay for the amount of work they expected. It should be remembered, however, that the superintendent was held directly accountable to the board for many of his activities and that the president was not responsible to the extent he later became for the activities of the superintendent and his subordinates. Bliss' duties as voted in 1844 were:[79]

> . . . the president [shall] have the active supervision of every department of service as Agent of the Corporation and representative of the Board, with as

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[77] Directors' Minutes of the Eastern Rail Road, September 16, 1841.

[78] Directors' Minutes of Western Rail Road, March 21, 1843; February 18, 1845; February 10, 17, 24, 1846.

[79] *Ibid.*, March 28, 1844.

much authority as is consistent with a proper responsibility, and an efficient discharge of duty on the part of the Superintendent. That he [the president] be general auditor of accounts; that he have charge of all contested claims for or against the Corporation; that he be charged with such foreign duties and negotiations with other Rail Road Corporations, lines of stages, mails, etc., as he can attend to, with such aid from the Superintendent as he can render; and be required once a month to report to the Board the general operations of the Road; and in connexion with the same recommend to the Board such measures and changes as his observations may suggest as important; and that he be required to devote so much of his time in the discharge of said duties as the interest of the Corporation may render necessary and receive such compensation therefor as the Board may hereafter determine upon.

The same duties were specified the following year except that the board stated the president was "required to devote his whole time to the service of the Corporation, if necessary, and receive as compensation therefore $2,500 per annum."[80]

As the officials of the early Massachusetts railroads developed their area of responsibilities and relieved the board of directors of some of the detailed work, the directors continued to give close attention to the problem of rates. In the next section I shall trace the early development of rates in the four roads included in this study.

(To be continued)

CHARLES J. KENNEDY
The University of Nebraska

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[80] *Ibid.*, February 18, 1845.

Editor's Column

As far as we know, Robert Owen's experiments within business in improving the conditions of the worker and, indeed, in improving the worker, himself, probably left no permanent effect on the thinking of British businessmen. It is significant today, when the responsibilities of business in our complex industrial society are being widely recognized, to note the reactions of a sensitive businessman to the early manifestations of the social problems brought by the Industrial Revolution. Mr. Peter Gorb, the author of the article entitled "Robert Owen as a Businessman," entered the employment of a manufacturing concern in Wales after receiving the M.B.A. degree from the Harvard Graduate School of Business Administration in June, 1951. His specialty is employee relations.

Professor Leonard J. Arrington, in his article dealing with the Iron Manufacturing Company of Utah, points to an experience in economic planning, and its implementation which took place over a period beginning some 70 years before planning of this kind became a favorite subject with scholars, bureaucrats, and some businessmen in the United States. Although this example does not lead to any positive conclusions concerning the efficacy of the business planning and activities carried on, jointly, by officers and members of the Church of Jesus Christ of Latter-day Saints, it does point to an interesting and rewarding subject for investigation. The development of administrative capacity and the mobilization of capital which this process involved were certainly different from the experience in other pioneer communities and may have been important in the growth of business among the Mormons.

The article entitled "Shoemaking in the Post-Revolutionary Period: The Business Records of Three Cordwainers of Reading, Massachusetts," is a small segment of a study in process of the history of the worker in the shoe industry in Massachusetts. Its author, Mr. John Philip Hall, has discovered valuable materials hitherto unused by historians, particularly records of labor organizations.

In his article on the "Development of Railway Officialdom," the

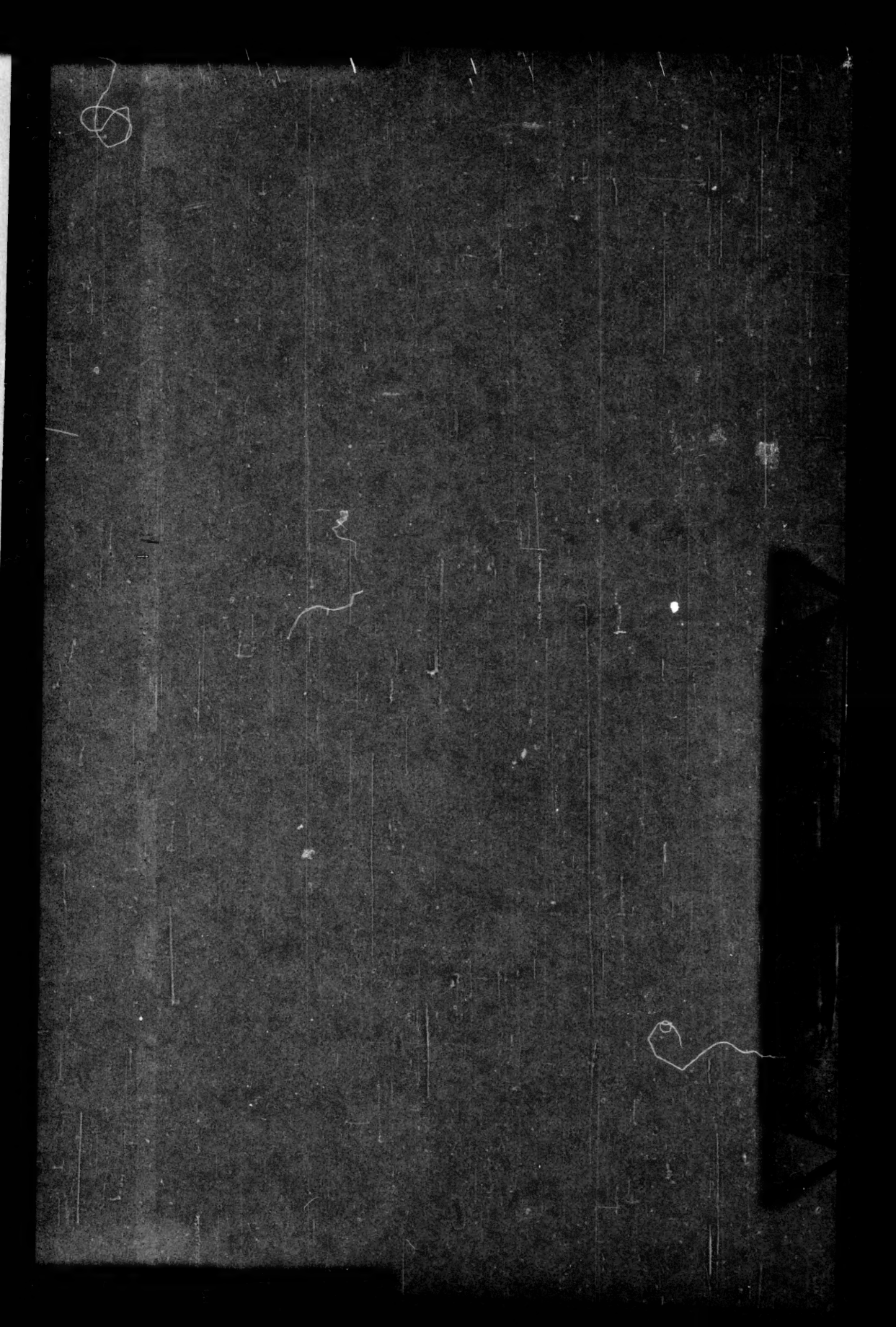
third installment of "The Early Business History of Four Massachusetts Railroads," Professor Kennedy deals with the very beginnings of the development of railroad operating organization. From such beginnings, railroads led in the development of large administrative organizations in this country.

Two lines on the monument at the grave of the founder of the American condensed milk industry summarize the man's life, according to a new book, *Gail Borden, Dairyman to a Nation:*

I TRIED AND FAILED.
I TRIED AGAIN AND AGAIN, AND SUCCEEDED.

In this volume, Professor Joe B. Frantz, who teaches Business History at the University of Texas, presents a very readable personal biography of Borden. A man of a restless and inventive turn of mind, Gail Borden, aided by a New York financier and the Civil War, founded an important industry and a business out of which grew the concern today bearing his name.

Gerald T. White is the recipient of the Business History Fellowship for the academic year 1951-1952. This Fellowship, awarded by the Business Historical Society, carries a stipend of $3,000 and enables an advanced scholar, usually the holder of a doctor's degree in history, to spend a year of study and research at the Harvard Graduate School of Business Administration. The recipient of the Fellowship is permitted free use of his time while at Harvard to pursue whatever aspects of the history of business he may choose. Dr. White will take a year's leave of absence from his duties as Associate Professor of History at San Francisco State College.



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